

**ANNUAL REPORT  
ON  
PORT STATE CONTROL  
IN THE ASIA-PACIFIC REGION**

**2018**



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## FOREWORD

We are pleased to present the **Annual Report on Port State Control in the Asia-Pacific Region 2018**.

December 2018 marked the 25<sup>th</sup> anniversary of the signing of the Asia-Pacific Memorandum of Understanding on port State control (the Tokyo MOU). The establishment of the regional port State control (PSC) regime under the Tokyo MOU has seen a tremendous improvement in the conduct of PSC in the region. The scope of achievements is obvious when the inspection results from the period of 2000 - 2018 are being compared. Over this period, the inspection activity in the region has increased from 16,034 inspections in year 2000 to 31,589 inspections in 2018. More significantly, this increase came from an overall increase in activity across the board and not just from specific member states.

This period has witnessed a steady growth in membership of the Tokyo MOU, with the strengthening in engagement and increased activity within the MOU's Port State Control Committee. The effectiveness of the work of the Committee is indicative of the maturity of the Tokyo MOU. This underpins the ongoing improvement in effectiveness in the conduct and harmonisation of port State control within the MOU and with other regional PSC regimes.

The Tokyo MOU ranks amongst the most influential regional MOUs, while it continues to focus on its continuous improvement, both within, and beyond. A critical element in this process is the provision of assistance and technical cooperation programmes within the MOU and to other regional PSC regimes and individual states. Through these programmes, the Tokyo MOU not only strives to continuously improve the capability, efficiency and effectiveness of PSC in achieving the MOU's goal of "elimination of substandard shipping in the region", but also supports the elimination of substandard shipping beyond the boundaries of the MOU.

This Annual Report outlines port State control activities and developments in the Tokyo MOU in 2018. Moreover, the report also provides port State control statistics and analysis on the results of inspections carried out by member Authorities during the year.

It is pleasing to note that the number of detentions, the detention rate (percentage) and number of under-performing ships continue to decrease in 2018. This demonstrates the effectiveness of the work of the MOU in improving the performance and quality of ships operating in the region. We must however still be mindful of existing and emerging issues that could undermine such improvements and consequently, the MOU is moving away from a

hardware focus, and is working to build systems that deal with the human elements that pose a risk to vessel safety and the environment. This reflects the fact that more than 70% of marine accidents have been linked to human elements.

We also note that International Safety Management remains one of the most prevalent causes of detention and this is not necessarily related to material defects. Similarly, the need to consider how vessels comply with 'operational requirements' and the crews' understanding of critical shipboard procedures is becoming an important part of the Tokyo MOU's focus. In doing so the Tokyo MOU aims to ensure that regional port State control will continue to enhance and promote maritime safety, security, protection of the marine environment and safeguarding seafarers' working and living conditions.



Alex Schultz-Altmann  
Chair  
Port State Control Committee



Hideo Kubota  
Secretary  
Tokyo MOU Secretariat



## CONTENTS

	page
<b>OVERVIEW</b>	
General introduction .....	1
Review of year 2018 .....	2
The Port State Control Committee .....	3
Technical Working Group (TWG) .....	5
The Asia-Pacific Computerized Information System (APCIS) .....	6
Training and seminars for port State control officers .....	7
Co-operation with other regional port State control regimes .....	9
<b>PORT STATE CONTROL UNDER THE TOKYO MOU, 2018</b>	
Inspections .....	11
Detentions .....	11
Deficiencies .....	12
Deficiency photo of the year .....	13
Overview of port State control results 2008-2018 .....	13
<b>ANNEX 1 -- STATUS OF THE RELEVANT INSTRUMENTS .....</b>	<b>21</b>
<b>ANNEX 2 -- PORT STATE INSPECTION STATISTICS .....</b>	<b>24</b>
Statistics for 2018 .....	24
Summary of port State inspection data 2016-2018 .....	34
<b>ANNEX 3 -- ORGANIZATION STRUCTURE OF THE TOKYO MOU .....</b>	<b>54</b>
<b>Explanatory Note on the Black-Grey-White Lists .....</b>	<b>55</b>

## LIST OF FIGURES AND TABLES

	page
Figure 1	Inspection percentage ..... 15
Figure 2	Inspection per ship risk profile ..... 15
Figure 3	Port State inspections - contribution by Authorities ..... 16
Figure 4	Type of ship inspected ..... 16
Figure 5	Detentions per flag ..... 17
Figure 6	Detention per ship type ..... 17
Figure 7	Deficiencies by main categories ..... 18
Figure 8	Most frequent detainable deficiencies ..... 18
Figure 9	No. of inspections ..... 19
Figure 10	Inspection percentage ..... 19
Figure 11	No. of inspections with deficiencies ..... 19
Figure 12	No. of deficiencies ..... 20
Figure 13	No. of detentions ..... 20
Figure 14	Detention percentage ..... 20
Figure 15	Comparison of inspections per ship type ..... 41
Figure 16	Comparison of detentions per ship type ..... 41
Figure 17	Comparison of inspections with deficiencies per ship type ..... 43
Figure 18	Comparison of number of deficiencies by main categories ..... 49
Figure 19	Comparison of most frequent detainable deficiencies ..... 51
Table 1	Status of the relevant instruments ..... 21
Table 1a	Status of MARPOL 73/78 ..... 23
Table 2	Port State inspections carried out by Authorities ..... 24
Table 2a	Port State inspections on maritime security ..... 25
Table 3	Port State inspections per ship risk profile ..... 26
Table 4	Port State inspections per flag ..... 27
Table 5	Port State inspections per ship type ..... 30
Table 6	Port State inspections per recognized organization ..... 31
Table 7	Deficiencies by categories ..... 33
Table 8	Black – Grey – White Lists ..... 34
Table 9	Inspections and detentions per flag ..... 37
Table 10	Inspections and detentions per ship type ..... 42
Table 11	Inspections with deficiencies per ship type ..... 44
Table 12	Inspections and detentions per recognized organization ..... 45
Table 13	Performance of recognized organization ..... 47
Table 14	Comparison of deficiencies by categories ..... 50
Table 15	Comparison of most frequent detainable deficiencies ..... 52
Table 16	List of under-performing ships ..... 53

## OVERVIEW

### GENERAL INTRODUCTION

The Annual Report on Port State Control in the Asia-Pacific Region is published under the auspices of the Port State Control Committee of the Memorandum of Understanding on Port State Control in the Asia-Pacific Region (Tokyo MOU). This annual report is the twenty-fourth issue and covers port State control activities and developments in the 2018 calendar year.

The Memorandum was signed in Tokyo on 1 December 1993 and came into effect on 1 April 1994. In accordance with the provisions of the Memorandum, Authorities that have signed and formally accepted the Memorandum or that have been accepted by unanimous consent of the Port State Control Committee become full members. Currently, the Memorandum has 20 full members, namely: Australia, Canada, Chile, China, Fiji, Hong Kong (China), Indonesia, Japan, Republic of Korea, Malaysia, Marshall Islands, New Zealand, Papua New Guinea, Peru, Philippines, Russian Federation, Singapore, Thailand, Vanuatu and Viet Nam. A maritime Authority that has declared its intention to fully adhere to the Memorandum within a three-year period may be accepted as a co-operating member by unanimous consent of the Port State Control Committee. Mexico and Panama are participating in Tokyo MOU as co-operating member Authorities.

The main objectives of the Memorandum are

to establish an effective port State control regime in the Asia-Pacific region through co-operation of its members, harmonization of the members' activities, to eliminate substandard shipping, to promote maritime safety and security, to protect the marine environment and to safeguard seafarers working and living conditions on board ships.

The Port State Control Committee established under the Memorandum monitors and controls the implementation and on-going operation of the Memorandum. The Committee consists of representatives from the member Authorities, co-operating member Authorities and observers. Observer status has been granted to the following maritime Authorities and inter-governmental organizations by the Committee: Democratic People's Republic of Korea, Macao (China), Samoa, Solomon Islands, Tonga, United States Coast Guard, the International Maritime Organization (IMO), the International Labour Organization (ILO), the Paris MoU, the Viña del Mar Agreement, the Indian Ocean MOU, the Black Sea MOU, the Riyadh MOU, the Caribbean MOU and the Abuja MOU. The Secretariat of the Memorandum is located in Tokyo, Japan. The Asia-Pacific Computerized Information System is established in the Russian Federation.

For the purpose of the Memorandum, the following instruments are the basis for port State control activities in the region:

- the International Convention on Load Lines, 1966;
- the Protocol of 1988 relating to the International Convention on Load Lines, 1966, as amended;
- the International Convention for the Safety of Life at Sea, 1974, as amended;
- the Protocol of 1978 relating to the International Convention for the Safety of Life at Sea, 1974;
- the Protocol of 1988 relating to the International Convention for the Safety of Life at Sea, 1974;
- the International Convention for the Prevention of Pollution from Ships 1973, as modified by the Protocol of 1978 relating thereto, as amended;
- the International Convention on Standards for Training, Certification and Watchkeeping for Seafarers, 1978, as amended;
- the Convention on the International Regulations for Preventing Collisions at Sea, 1972;
- the International Convention on Tonnage Measurement of Ships, 1969;
- the Merchant Shipping (Minimum Standards) Convention, 1976 (ILO Convention No. 147);
- the Maritime Labour Convention, 2006;
- the International Convention on the Control of Harmful Anti-fouling Systems on Ships, 2001;
- the Protocol of 1992 to amend the International Convention on Civil Liability for Oil Pollution Damage, 1969; and
- the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004.

### REVIEW OF YEAR 2018

Tokyo MOU celebrated and commemorated its 25<sup>th</sup> anniversary in 2018. Over the last 25 years, Tokyo MOU has steadily developed and enhanced its organization and membership; established and maintained efficient and effective PSC system in the region and, introduced and implemented numerous initiatives and measures for promotion of maritime safety, maritime security, protection of the marine environment and safeguarding working and living conditions of seafarers. Tokyo MOU has also developed and implemented a diverse and comprehensive range of technical co-operation programmes. Tokyo MOU has made great progress and achievements during its first quarter century of establishment. In connection with celebration of its 25<sup>th</sup> anniversary, a historic overview has been produced and published on the Tokyo MOU website (See also page 3).

The concentrated inspection campaign (CIC) on MARPOL Annex VI was carried out from 1 September to 30 November 2018. During the CIC period, a total of 8,270 PSC inspections were conducted by the member Authorities, of which 6,604 were with a CIC inspection. The



highest number of CIC inspections relating to ship types were conducted on bulk carriers (2,402 (36.37%)), followed by general cargo/multipurpose vessels (1,234 (18.69%)) and container vessels (1,171 (17.73%)). The areas of major deficiencies found during the campaign were related to the ozone-depleting substances record book (121 (1.83%)), bunker delivery notes (118 (1.79%)) and operation of shipboard incinerator or thermal waste treatment device installed as an alternative arrangement (93 (1.41%)). There was a total of 198 (2.39%) detentions during the campaign period, of which 3 ships (0.05%) were detained as a direct result of the CIC. In general, the outcome of the CIC was satisfactory. The CIC on MARPOL Annex VI in 2018 was conducted jointly with the Paris MoU. Other regional PSC regimes of the Black Sea MOU and the Indian Ocean MOU also participated in the CIC.

For the purpose of facilitating smooth and consistent implementation of the global 2020 sulphur cap requirements, Tokyo MOU, in co-operation with the Paris MoU, decided to carry out a joint information campaign by issuing a Letter of Warning to ships during inspections from 1 January to 31 December 2019. The aim is to increase awareness of the industry on the matter and to remind and encourage compliance with Regulations 14 and 18 of MARPOL Annex VI.

### **THE PORT STATE CONTROL COMMITTEE**

The twenty-ninth meeting of the Port State Control Committee was held in Hangzhou, China, from 5 to 8 November 2018. The meeting was hosted by China Maritime Safety Administration. The meeting was chaired by Mr. Carlos Fanta, Rear Admiral (retired), Head of Port State Control Division, Directorate of

Maritime Safety, Security and Operation, Directorate General of the Maritime Territory and Merchant Marine (DIRECTEMAR) of Chile.

The meeting was attended by representatives from the member Authorities of Australia, Canada, Chile, China, Fiji, Hong Kong (China), Indonesia, Japan, the Republic of Korea, Malaysia, Marshall Islands, New Zealand, Russian Federation, Singapore, Thailand, Vanuatu and Viet Nam; co-operating member Authority of Panama; and observers of Macao (China), the United States Coast Guard, the Black Sea MOU, the Caribbean MOU, the Indian Ocean MOU, the Paris MoU, the Riyadh MOU, the Viña del Mar Agreement and ILO.

The Committee celebrated the 25<sup>th</sup> anniversary of Tokyo MOU, since signature of the Memorandum on 1 December 1993 in Tokyo. The Committee expressed satisfaction to the significant achievements and ongoing development of activities of Tokyo MOU during the past 25 years and reaffirmed its commitment to future advancement. Bearing in mind the generous and continuous support to the Tokyo MOU technical co-operation activities by the Nippon Foundation, the Committee agreed to send a gratitude letter to Dr. Yohei Sasakawa, Chairman of the Nippon Foundation for his most valuable contribution.

The Committee considered the application for Co-operating Member status by Mexico. In accordance with provision of the Memorandum, the Committee unanimously agreed to accept Mexico as a Co-operating Member Authority. The Committee endorsed the arrangements for application for full membership and assessment of compliance by Panama upon completion of its three-year term as a

Co-operating Member Authority. The Committee considered the application for observer status by the Abuja MOU and unanimously agreed to grant the observer status to the Abuja MOU. The Committee was informed of the outcome of the first peer support review conducted after adoption of peer support review as a permanent programme.

The Committee was informed of effective implementation of measures on under-performing ships. The Committee reviewed the analysis report of the most important key performance indicators (KPIs). The Committee reviewed and revised the principles for access to APCIS data and dissemination of PSC data. The Committee adopted amendments to the Memorandum for incorporation of consequential change of references from Resolution A.1052 (27) into Resolution A.1119 (30). The amendments

came into effect on 1 December 2018.

The Committee considered and approved the proposed responses to issues/requests raised by the industry in the previous forum with industry, which will serve as input at the next forum with industry to be held in conjunction with the next meeting of the Committee. The Committee agreed to carry out an information campaign jointly with the Paris MoU, by issuing Letter of Warning (LoW), for encouraging timely implementation and compliance of 2020 global sulphur cap requirements.

The Committee reviewed the list of follow-up actions emanating from the Ministerial Declaration of “Safeguarding Responsible and Sustainable Shipping” adopted at the 3<sup>rd</sup> Joint Ministerial Conference of the Paris and the Tokyo Memoranda on Port State Control in



The twenty-ninth Committee meeting, Hangzhou, November 2018.

Vancouver, Canada, in May 2017. In this context, the Committee agreed the proposals for the development of guidance for dealing with exemptions for single delivery voyage and education programme for the shipment of bulk cargoes and development of guidelines thereof.

The Committee considered and approved the final report of the 2017 CIC on Safety of Navigation. The Committee reviewed and confirmed the arrangements and preparations for the joint CIC with the Paris MoU on Emergency Systems and Procedures in 2019. The Committee considered possible topics for future CICs. In this regard, the Committee agreed to carry out the CIC on Stability in General in 2020 and the CIC on STCW in 2021 jointly with the Paris MoU. The Committee, taking the amendments by the Paris MoU into account, considered and adopted amendments to its policy on joint CICs. Moreover, the Committee considered and make decisions on measures for preparation of CICs and for improvement of CIC inspections.

The Committee considered and endorsed the technical co-operation framework on IMO-NORAD Project on Marine Environment Protection of the Southeast Asian Seas (MEPSEAS). The Committee was informed of preparation of a project for improvement of flag State performance, funded by the Nippon Foundation. The Committee was also informed of arrangements for providing assistance for PSC training for member countries of the Association of Southeast Asian Nations (ASEAN) sponsored by the Australian Government.

In addition, the Committee also gave consideration and made decisions on the

following:

- assessment of performance of member Authorities;
- summary of responses on national arrangement for PSC;
- review of achievements and status of the action plan developed based on the strategic plan;
- approval of periodical revision/update of the PSC Manual;
- endorsement of change of staff of the Secretariat; and
- revision of the procedures and awarding of the winner of the deficiency photo of the year.

As the terms of office of both the Chair and the Vice-Chair expired at the end of the PSCC29 meeting, the Committee unanimously elected Mr. Alex Schultz-Altmann, Manager, Ship Inspection and Registration, Ship Safety Division, Australian Maritime Safety Authority, as the Chair and Mr. Kenny Crawford, Deputy Director, Maritime Systems Assurance, Maritime New Zealand, as the Vice-Chair of the Committee for the next three meetings.

The thirtieth meeting of the Port State Control Committee will be held in the Marshall Islands in October 2019.

#### **TECHICAL WORKING GROUP (TWG)**

The twelfth meeting of the Technical Working Group (TWG) was held in Hangzhou, China, from 1 to 2 November 2018, immediately be-



fore the twenty-ninth meeting of the Port State Control Committee. The TWG12 meeting was chaired by Mr. Kenny Crawford, Deputy Director, Maritime Systems Assurance, Maritime New Zealand.

The TWG meeting discussed and made recommendations to the Committee on matters relating to:

- reports of intersessional groups: advisory group on information exchange (AG-IE), intersessional group on batch protocol (IG-BP), intersessional group on statistics (IG-Statistics), intersessional group on BWM (IG-BWM) and intersessional group on distance learning programmes (IG-DLP);
- cases considered by the detention review panel;
- periodical revision of the PSC Manual;
- development and review of PSC guidelines;
- preparation and arrangements for on-going and upcoming CICs;
- activities and operation of the Asia-Pacific Computerized Information System (APCIS);
- management and maintenance of the coding system;
- analysis and statistics on PSC;
- information exchange with other regional PSC databases; and

- reports and evaluations of technical co-operation activities.

As the terms of office of both the Chair and the Vice-Chair expired at the end of the TWG12 meeting, the meeting unanimously elected Mr. Hu Ronghua of China as the Chair and elected Mr. Chen Kit Jam of Singapore as the Vice-Chair for the next three sessions of TWG.

### **ASIA-PACIFIC COMPUTERIZED INFORMATION SYSTEM (APCIS)**

For reporting and storing of port State inspection results and facilitating exchange of information in the region, a computerized database system was established. The central site of the APCIS is located in Moscow, under the auspices of the Ministry of Transport of the Russian Federation.

The APCIS is connected by member Authorities on-line or by batch protocol for searching ships for inspection and for inputting and transmitting inspection reports. The APCIS also supports on-line publication of PSC data on the Tokyo MOU website (<http://www.tokyo-mou.org>) on a real time basis. Based on data stored in the database, the APCIS produces annual and detailed PSC statistics.

For inter-regional information exchange, the APCIS has established deep hyperlinks with the databases of:

- THETIS of the Paris MOU;
- BSIS of the Black Sea MOU;
- IOCIS of the Indian Ocean MOU;
- CIALA of the Viña del Mar Agreement; and
- CMIC of the Caribbean MOU.

Furthermore, the Tokyo MOU PSC data is also provided to GISIS and EQUASIS.

**TRAINING AND SEMINARS FOR PORT STATE CONTROL OFFICERS**

The eighth general training course for PSC officers was held in Yokohama, Japan, from 20 August to 14 September 2018. This was the fourteenth training course jointly organized by IMO and the Tokyo MOU. A total of 24 PSC officers participated in the training course. Fifteen of them were from the Tokyo MOU Authorities of China, Indonesia, the Republic



Training course for PSC officers

of Korea, Macao (China), Malaysia, Marshall Islands, Panama, Papua New Guinea, Philippines, Russian Federation, Solomon Islands, Thailand, Tonga and Viet Nam. Seven of them were invited by IMO, one each from the Abuja MOU, the Black Sea MOU, the Caribbean MOU, the Indian Ocean MOU, the Mediterranean MOU, the Riyadh MOU and the Viña del Mar Agreement. In addition, two participants, on each, were sent and supported by the Indian Ocean MOU and the Riyadh MOU respectively. As in previous years, the Ministry of Land, Infrastructure,



Onboard training

Transport and Tourism of Japan kindly provided many experts as lecturers of the course and venues for on board trainings. The course was conducted with the assistance of the Shipbuilding Research Centre of Japan (SRC).

The general training course consisted of two-week classroom lectures in a wide range of subjects, the main part of which are related to IMO and ILO conventions and regulations relevant to PSC implementation, supplemented by onboard training in the following two weeks. Experts from the Ministry of Land, Infrastructure, Transport and Tourism of Japan (MLIT), SRC and the Secretariat delivered lec-



Onboard training



Technical visit

tures on relevant subjects. Onboard training was carried out in the following two weeks, during which participants received practical training on PSC inspections at ports allocated in ten District Transport Bureaus, namely: Hokkaido, Tohoku, Kanto, Hokuriku- shin'etsu, Chubu, Kinki, Kobe, Chugoku, Shikoku and Kyusyu. In addition, a technical visit to a life-raft service station was also arranged.

The twenty-sixth seminar for PSC officers and the Workshop on Effective Implementation of IMO Conventions were held in Langkawi, Malaysia, from 9 to 13 July 2018. The seminar and workshop were hosted by the Malaysia Marine Department. Participants from Authorities of Australia, Canada, China, Fiji, Hong Kong (China), Indonesia, Japan, the Republic of Korea, Macao (China), Malaysia, Marshall Islands, Panama, Papua New Guinea, Peru, Philippines, Russian Federation, Singapore, Thailand, Vanuatu and Viet Nam attended the seminar and the workshop. Representatives from Iran and Myanmar representing the Indian Ocean MOU, from Bolivia and Mexico representing the Viña del Mar Agreement and from the Pacific Islands States of the Cook Islands and the Solomon Islands also participated in the seminar and the workshop. IMO generously provided

funding for the participation of representative from the Pacific Islands States. In addition, a number of Malaysian PSC officers attended the seminar as observers. The major topics of the seminar were the Concentrated Inspection Campaign (CIC) on MARPOL Annex VI 2018, Introduction of Guidelines for inspection of ships below convention size, results of CIC on Safety of Navigation 2017, Introduction of APCIS functions and usage, PSC guidelines for MARPOL Annexes IV and V and PSC activities in Malaysia. Experts from Australia, China, Malaysia and the APCIS Manager provided comprehensive and informative presentations on the relevant topics. Two case study sessions were carried out to discuss actual cases provided by Authorities or



The twenty-sixth seminar for PSC officers

reviewed by the detention review panel. Following the seminar, a Workshop on Effective Implementation of IMO Conventions was organized jointly by IMO and the Tokyo MOU. Experts from the Korean Register of Shipping gave presentations on recent development on IMO conventions and PSCO decision support tool.

Two expert missions were conducted in 2018. The first mission was delivered in Da Nang, Viet Nam, from 26 to 30 November 2018. The second mission was carried out in Suva, Fiji, from 26 November to 5 December 2018. Both



missions were conducted by experts from Japan.

Five PSC officer exchanges, involving six PSC officers, were completed in 2018, namely one PSC officer from New Zealand to the Philippines, one PSC officer from Viet Nam to Russian Federation, two PSC officers one each from Hong Kong (China) and New Zealand to Viet Nam, one PSC officer from Japan to Malaysia and one PSC officer from Chile to Singapore.

Effective and successful implementation of the extensive, comprehensive technical co-operation programmes ensures Tokyo MOU to keep the good potential and sustainability for development of its activities. The Nippon Foundation kindly provided continuous funding for the Tokyo MOU technical co-operation activities.

#### **CO-OPERATION WITH OTHER REGIONAL PORT STATE CONTROL REGIMES**

Establishment and effective operation of regional co-operation regimes on port State control has formed a worldwide network for elimination of substandard shipping. Currently, there are a total of nine regional port State control regimes (MOUs) covering the major part of the world, namely:

- Abuja MOU
- Black Sea MOU
- Caribbean MOU
- Indian Ocean MOU
- Mediterranean MOU
- Paris MoU
- Riyadh MOU
- Tokyo MOU
- Viña del Mar Agreement

As one of the inter-governmental organizations (IGO) associated with IMO, the Tokyo MOU has attended meetings of the Flag State Implementation (FSI) and Implementation of IMO Instruments (III) Sub-Committees since 2006. The Tokyo MOU Secretariat attended the fifth meeting of the III Sub-Committee in September 2018.

In support of inter-regional collaboration on port State control, Tokyo MOU holds observer status within the Paris MoU, the Caribbean MOU, the Indian Ocean MOU, the Viña del Mar Agreement, and the Riyadh MOU. In a similar manner, the Tokyo MOU has granted observer status to the Paris MoU, the Indian Ocean MOU, the Viña del Mar Agreement, the Black Sea MOU, the Riyadh MOU, the Caribbean MOU and the Abuja MOU.

Tokyo MOU has established, and maintained, effective and close co-operation with the Paris MoU at both administrative and technical levels. Representatives of the two Secretariats attend the Port State Control Committee meetings of each MOU on a regular basis. During the period of 2018, continuous efforts and further coordinated actions by the two Memoranda were made on the following:

- review of actions emanating from the 3<sup>rd</sup> Joint Ministerial Declaration;
- ongoing co-operation for keeping harmonization of PSC guidelines with each other;
- closer liaison and co-operation for planning and preparation of joint CICs;
- amendments to the policy on joint CICs;

- coordination for early warning on global 2020 sulphur cap compliance;
- continuous submission to IMO on annual list of flags targeted by the Paris MoU, Tokyo MOU and the United States Coast Guard; and
- continuous analysis of performance of flag and RO and joint submission of the outcome to IMO.

A further PSC expert mission training course for the Indian Ocean MOU was carried out in Mombasa, Kenya, from 8 to 19 October 2018. Experts from the Tokyo MOU Authorities of Canada, Chile and China, the Indian Ocean MOU Authority of South Africa and an officer from the Tokyo MOU Secretariat were dispatched for conducting the training. A total of 23 participants attended the course. IMO provided funding for participants from other regions.



Expert mission training course for the Indian Ocean MOU



## PORT STATE CONTROL UNDER THE TOKYO MOU, 2018

### INSPECTIONS

In 2018, 31,589 inspections, involving 17,301 individual ships, were carried out on ships registered under 99 flags. Figure 3 and Table 2 show the number of inspections carried out by the member Authorities of the Tokyo MOU. Out of 31,589 inspections, there were 18,091 inspections where ships were found with deficiencies. Since the total number of individual ships operating in the region was estimated at 24,767\*, the inspection rate in the region was approximately 70%\*\* in 2018 (see Figure 1).

Information on inspections according to ships' flag is shown in Table 4.

Figure 2 and Table 3 provide information on inspections per ship risk profile.

Figures summarizing inspections according to ship type are set out in Figure 4 and Table 5.



Winner of Deficiency Photo of the Year - 2018

\* Number of individual ships which visited the ports of the region during the year (the figure was provided by LLI).

\*\* The inspection rate is calculated by: number of individual ships inspected/number of individual ships visited.



Candidate photo for Deficiency Photo of the Year

Inspection results regarding recognized organizations are shown in Table 6.

### DETENTIONS

Ships are detained when the condition of the ship or its crew does not correspond substantially with the applicable conventions. Such strong action is to ensure that the ship cannot sail until it can proceed to sea without presenting a danger to the ship or persons on board, or without presenting an unreasonable threat of harm to the marine environment.

In 2018, 934 ships registered under 63 flags



Candidate photo for Deficiency Photo of the Year

were detained due to serious deficiencies having been found onboard. The detention rate of ships inspected was 2.96%. Both the number of detentions and detention percentage has decreased continuously.

Figure 5 shows the detention rate by flag for flags where at least 20 port State control inspections had been conducted and whose detention rate was above the average regional rate. Figure 6 gives the detention rate by ship type. Figure 8 illustrates the most frequent detainable deficiencies found during inspections, among which detainable deficiencies on Fire-dampers (Fire safety) was the highest.

The Black-grey-white list (Table 8) indicates levels of performance of flags over a three-year rolling period. Flags, whose ships were involved in 30 or more inspections during the period, are included in the list. The black-grey-white list for 2016-2018 consists of 68 flags, an increase of two from last year. The number of flags in the black list is 12, one flag more than last year. The number of flags on the grey list decreased from 18 to 16

during the reporting period. The white list increased from 37 to 40 flags.

A list of under-performing ships (i.e. ships detained three or more times during previous twelve months) is published monthly. A total of 76 vessels, involving 19 individual ships, were identified as under-performing ships in 2018, the number of which is continuously decreasing. The list of under-performing ships is provided in Table 16.

## DEFICIENCIES

Where conditions on board are found that are not in compliance with the requirements of the relevant instruments by the port State control officers, these are recorded as deficiencies and required to be rectified.

A total of 73,441 deficiencies were recorded in 2018. The deficiencies found are categorized and shown in Figure 7 and Table 7.

It has been noted that fire safety measures, safety of navigation and life-saving appliances continue to be the top three categories of deficiencies discovered on ships. In 2018, 13,340 deficiencies related to fire safety measures,



Candidate photo for Deficiency Photo of the Year





Candidate photo for Deficiency Photo of the Year

10,127 safety of navigation related deficiencies and 9,363 deficiencies related to life-saving appliances were recorded, representing 45% of the total number of all recorded deficiencies.

In 2018, deficiencies reduced by 2,667 in number or 3.50% by percentage. The reduction is found mainly in categories of crew certificates, fire safety, safety of navigation, life-saving appliances and ISM. On the other hand, deficiencies under categories of pollution prevention have increased by 2,095 or 43% in 2018, of which number of deficiencies relating to Ballast Water Management (BWM) Convention was three times more than that in 2017 and, as the results of CIC of the year, number of deficiencies on MARPOL Annex VI was nearly doubled as in 2017.

### DEFICIENCY PHOTO OF THE YEAR

The function for collecting and storing deficiency photos taken during PSC inspections in the APCIS system has been implemented since 2009. For encouraging and promoting PSC officers to submitting deficiency photos, a prize of deficiency photo of the year has been established to award the winner for deficiency photo of the year. Deficiency photo of the years are also published on the Tokyo MOU website.

In 2018, a total of 10,035 photos were submitted by PSC officers. In accordance with the procedures for selection of deficiency photo of the year, the photo taken by PSC officer of the Authority of China was selected as the winner for 2018. Deficiency photo of the year – 2018 and other candidate photos are provided in this section.



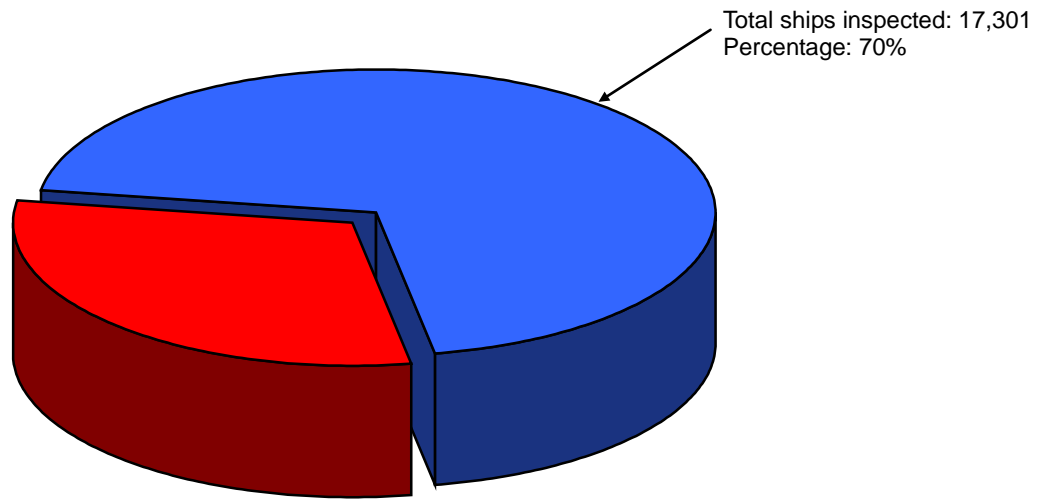
Candidate photo for Deficiency Photo of the Year

### OVERVIEW OF PORT STATE CONTROL RESULTS 2008 – 2018

Figures 9-14 show the comparison of port State inspection results for 2008 - 2018. These figures indicate the trends in port State

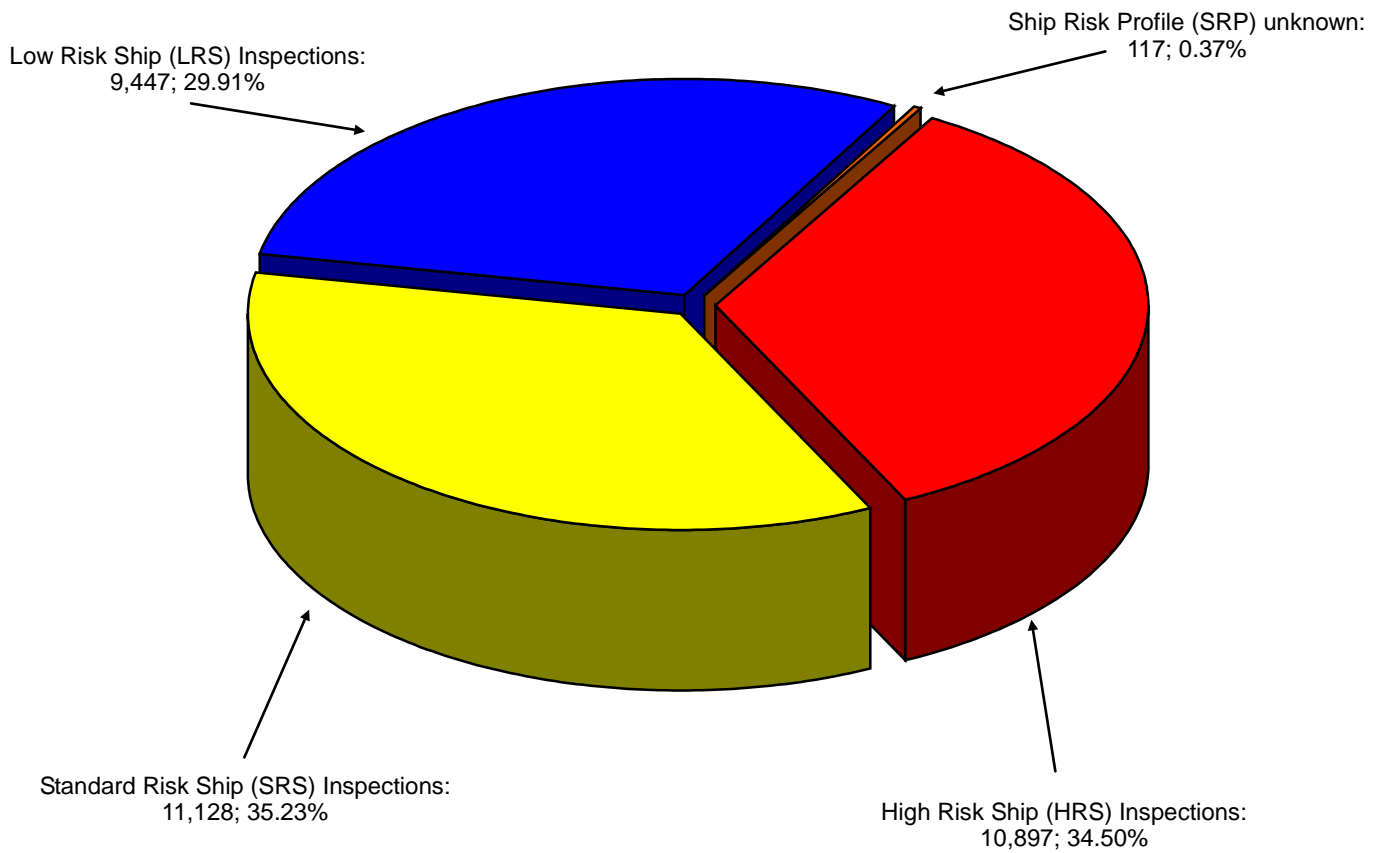
activities and ship performance over the past eleven years.

**Figure 1: INSPECTION PERCENTAGE**

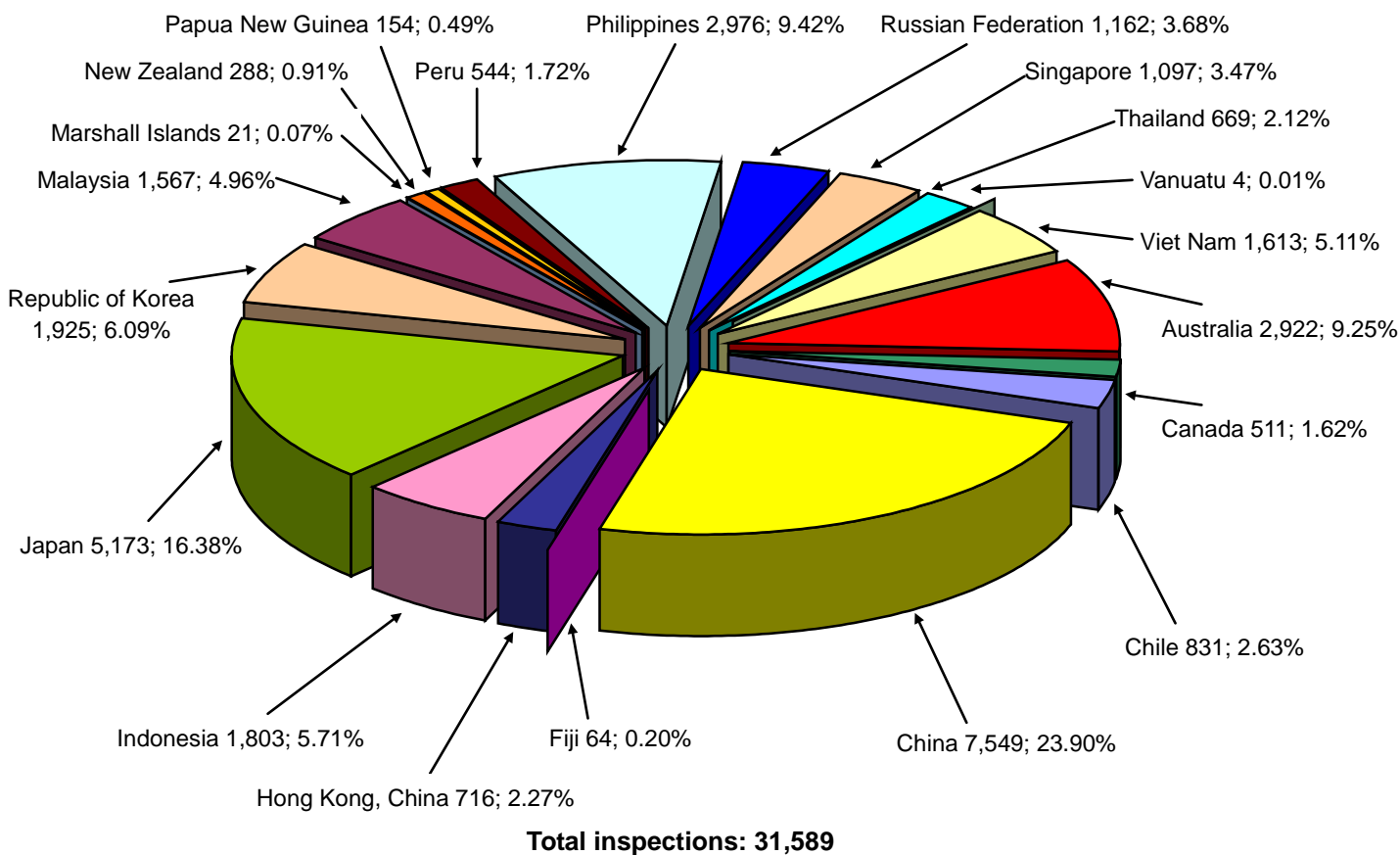


Total individual ship visited: 24,767

**Figure 2: INSPECTION PER SHIP RISK PROFILE**



**Figure 3: PORT STATE INSPECTIONS - CONTRIBUTION BY AUTHORITIES**



**Figure 4: TYPE OF SHIP INSPECTED**

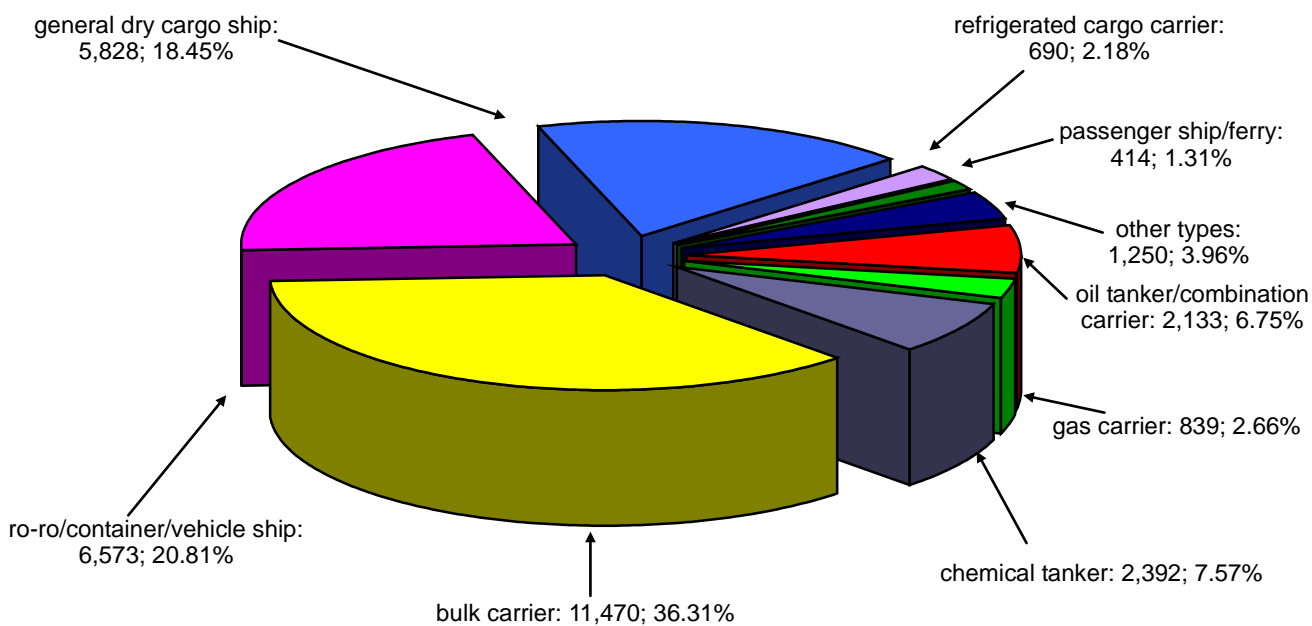
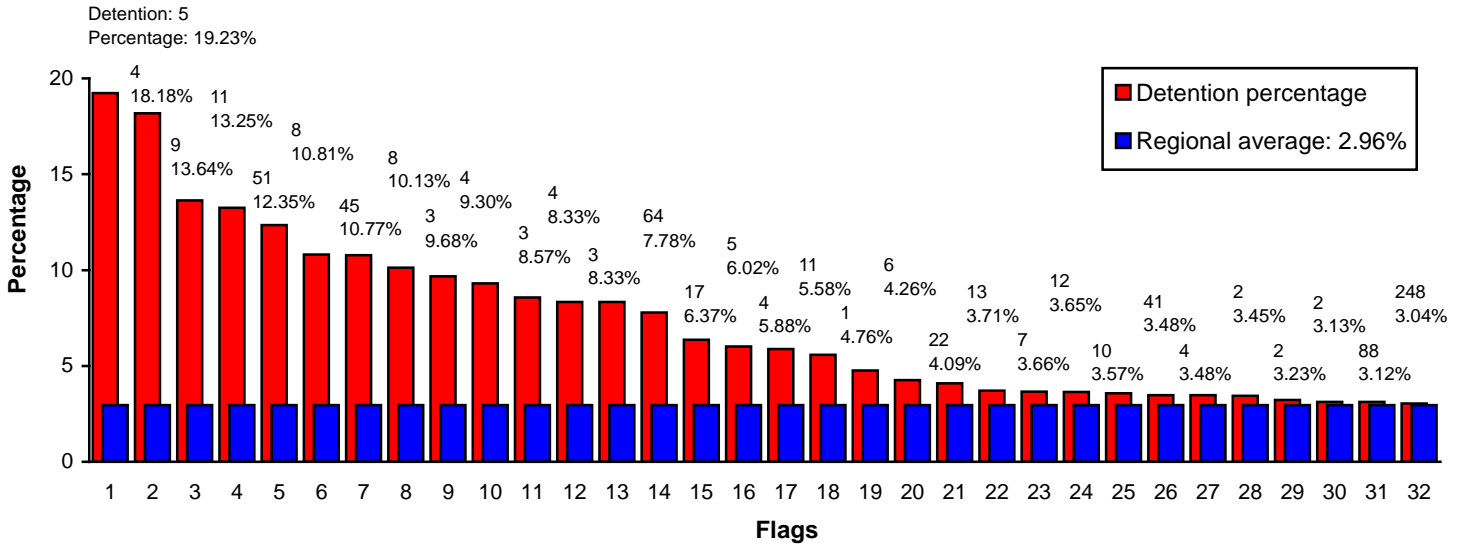


Figure 5: DETENTIONS PER FLAG

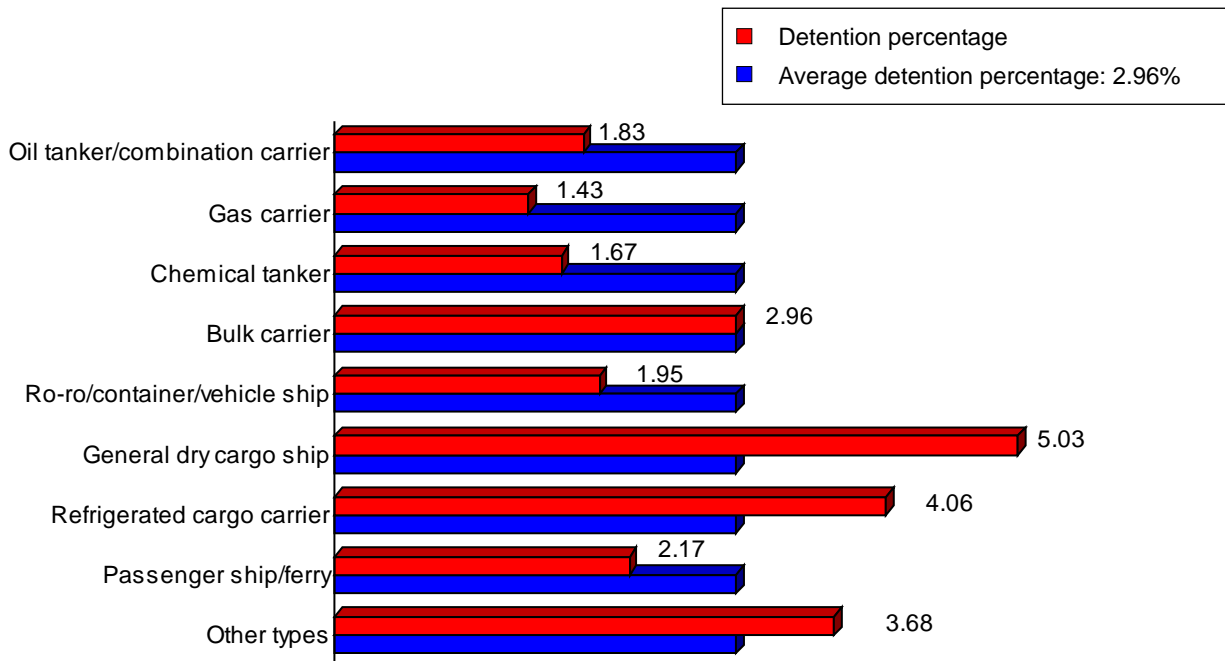


Flags:

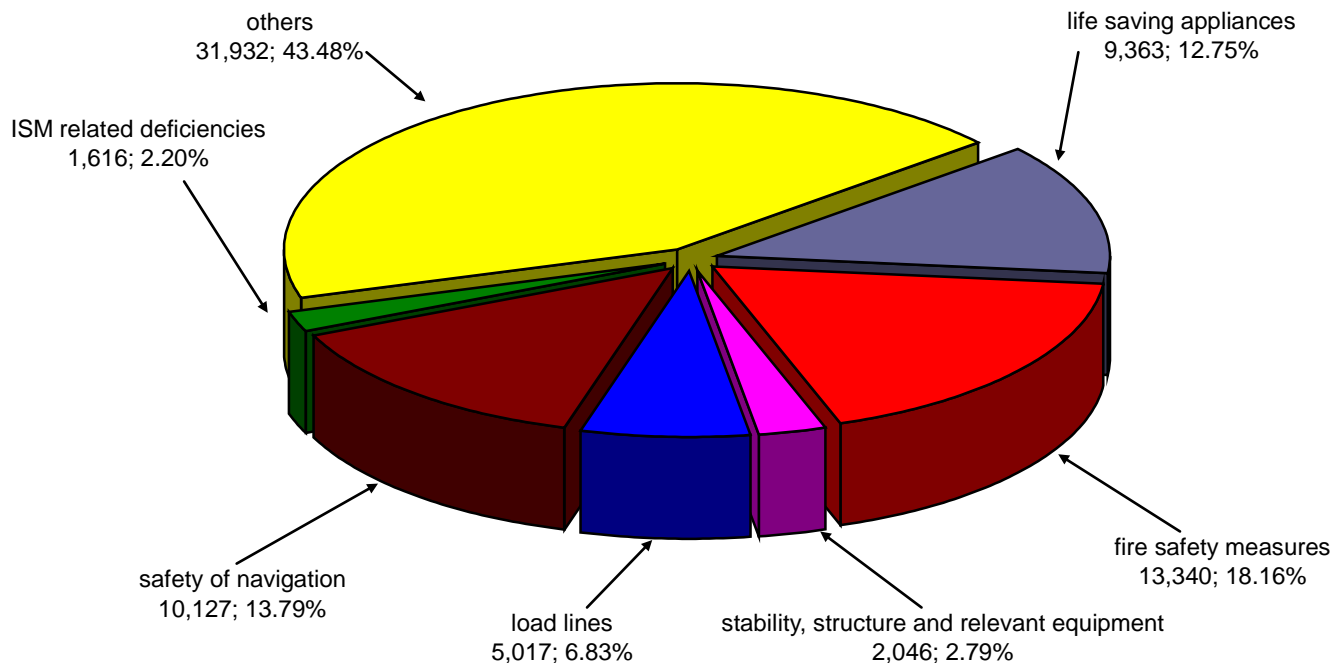
- |                         |                              |                         |                                      |
|-------------------------|------------------------------|-------------------------|--------------------------------------|
| 1. Barbados             | 2. Jamaica                   | 3. Kiribati             | 4. Mongolia                          |
| 5. Togo                 | 6. Palau                     | 7. Sierra Leone         | 8. Korea, Dem. People's Rep.         |
| 9. Cook Islands         | 10. Niue                     | 11. Croatia             | 12. Iran                             |
| 13. Dominica            | 14. Belize                   | 15. Indonesia           | 16. India                            |
| 17. Vanuatu             | 18. Philippines              | 19. Qatar               | 20. Tuvalu                           |
| 21. Cyprus              | 22. Russian Federation       | 23. United Kingdom (UK) | 24. Portugal                         |
| 25. Antigua and Barbuda | 26. Malta                    | 27. Italy               | 28. Saint Vincent and the Grenadines |
| 29. Bangladesh          | 30. United States of America | 31. Liberia             | 32. Panama                           |

Note: Flags listed above are those flags the ships of which were involved in at least 20 port State inspections and detention percentage of which are above the regional average detention percentage. The complete information on detentions by flag is given in Table 4.

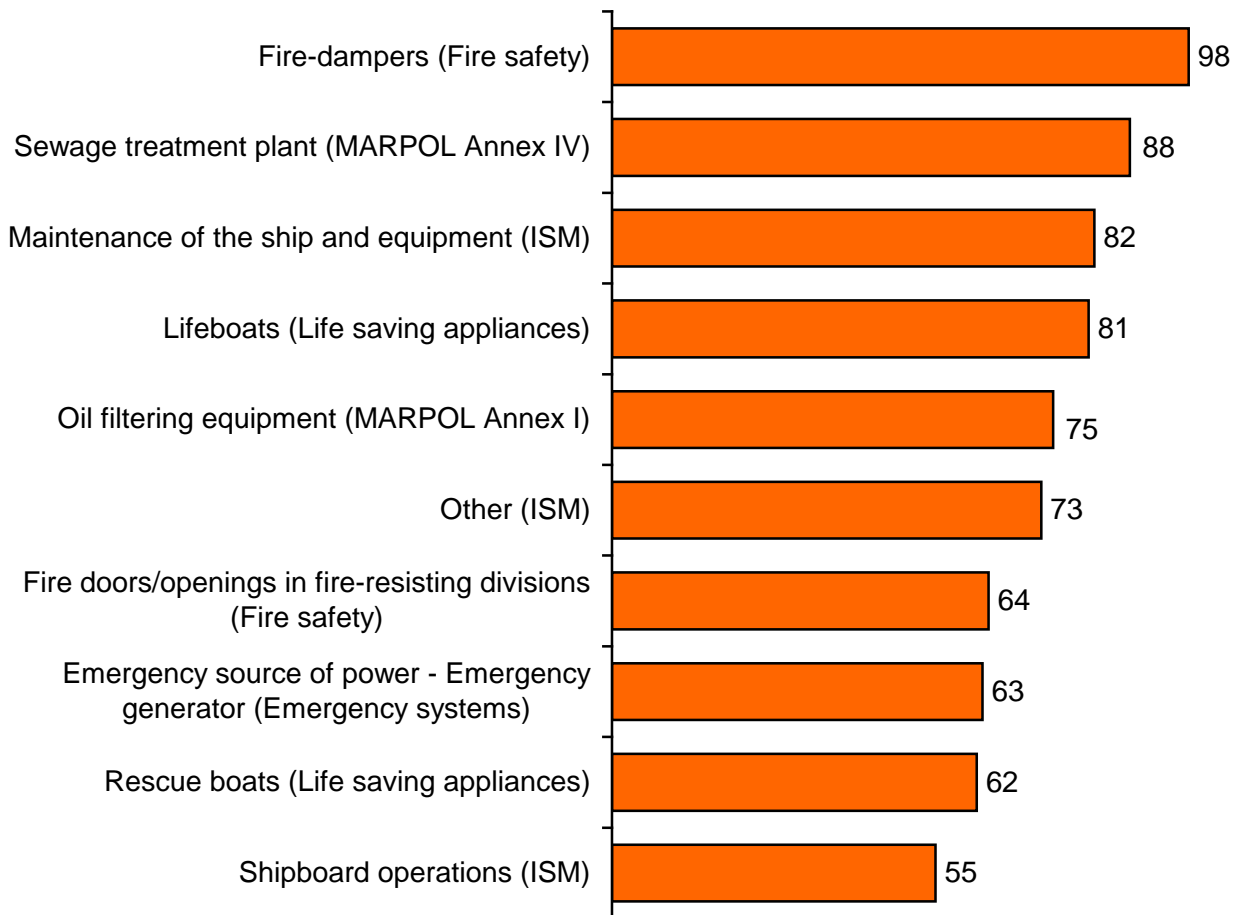
Figure 6: DETENTION PER SHIP TYPE



**Figure 7: DEFICIENCIES BY MAIN CATEGORIES**



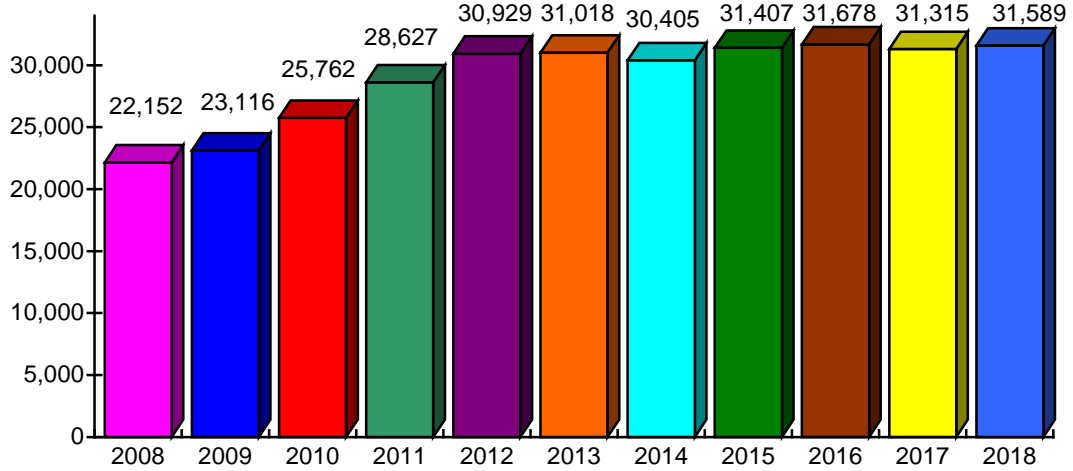
**Figure 8: MOST FREQUENT DETAINABLE DEFICIENCIES**



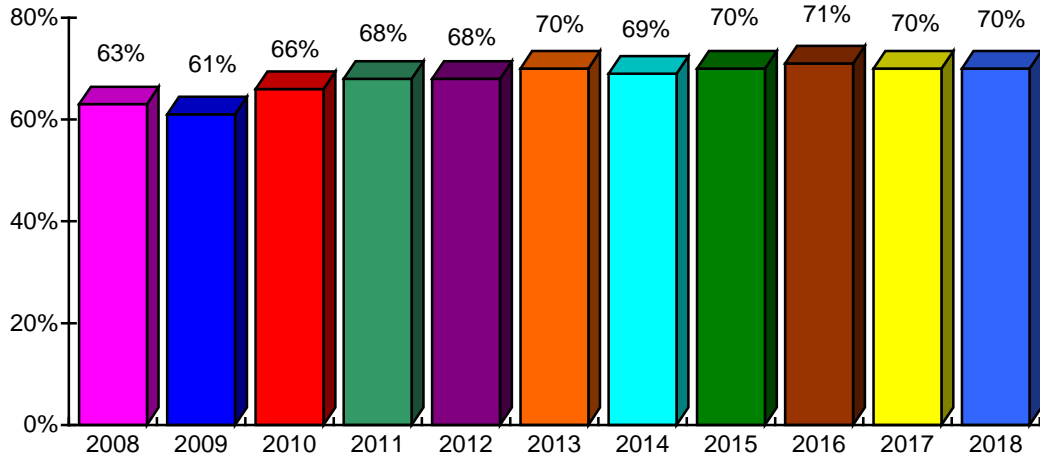


**OVERVIEW OF PORT STATE CONTROL RESULTS 2008 - 2018**

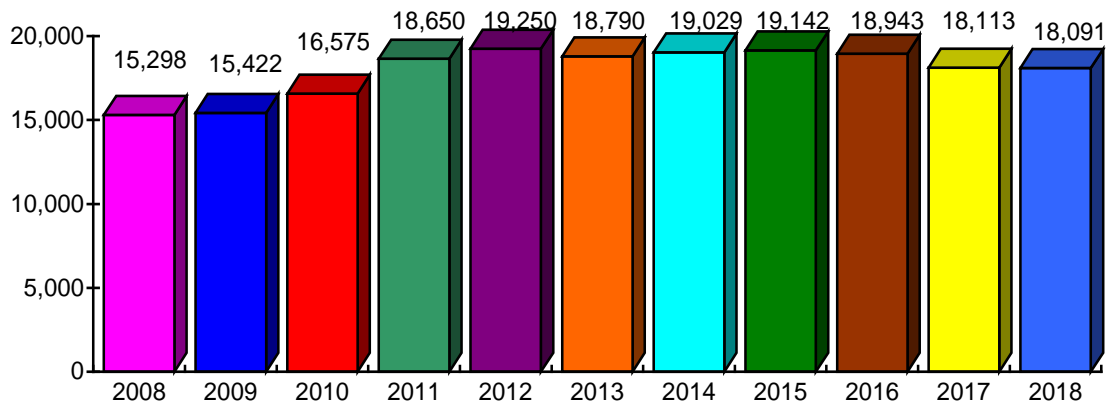
**Figure 9: NO. OF INSPECTIONS**



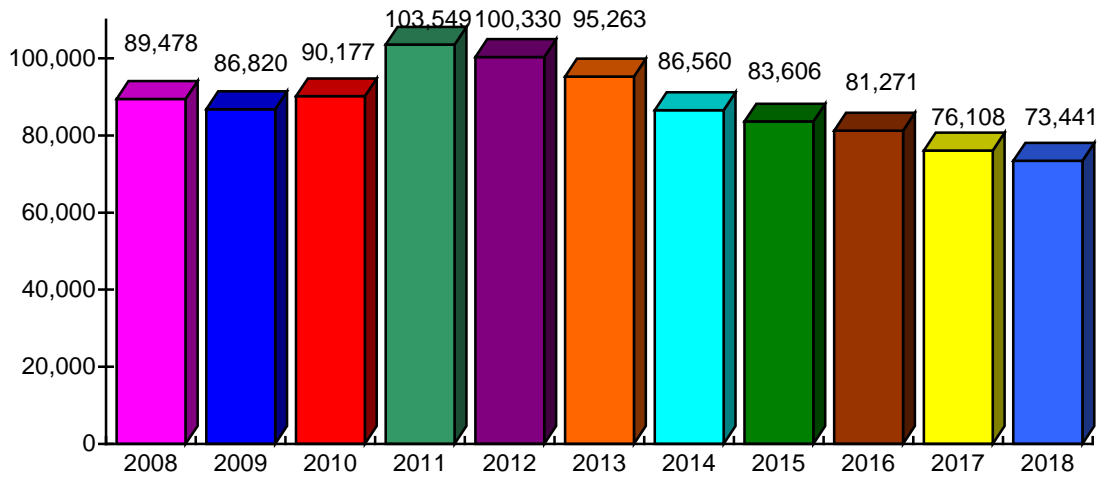
**Figure 10: INSPECTION PERCENTAGE**



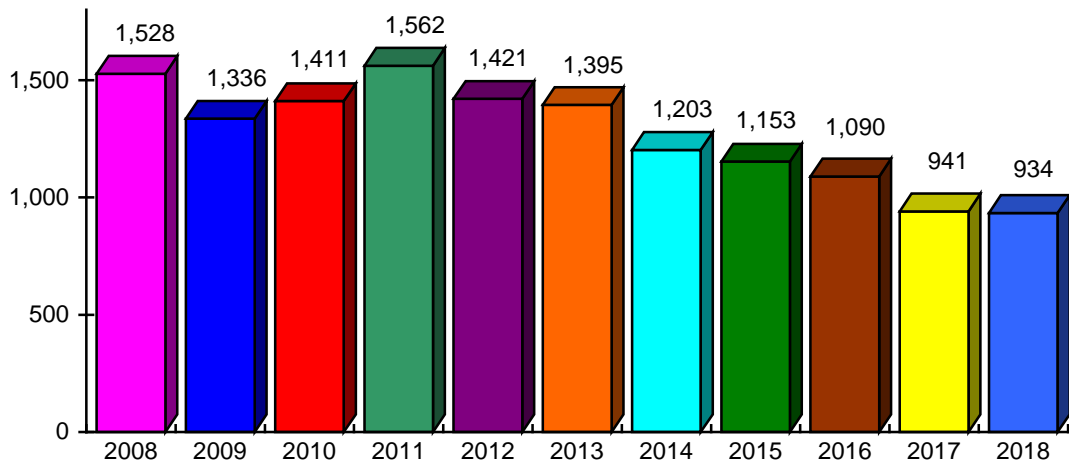
**Figure 11: NO. OF INSPECTIONS WITH DEFICIENCIES**



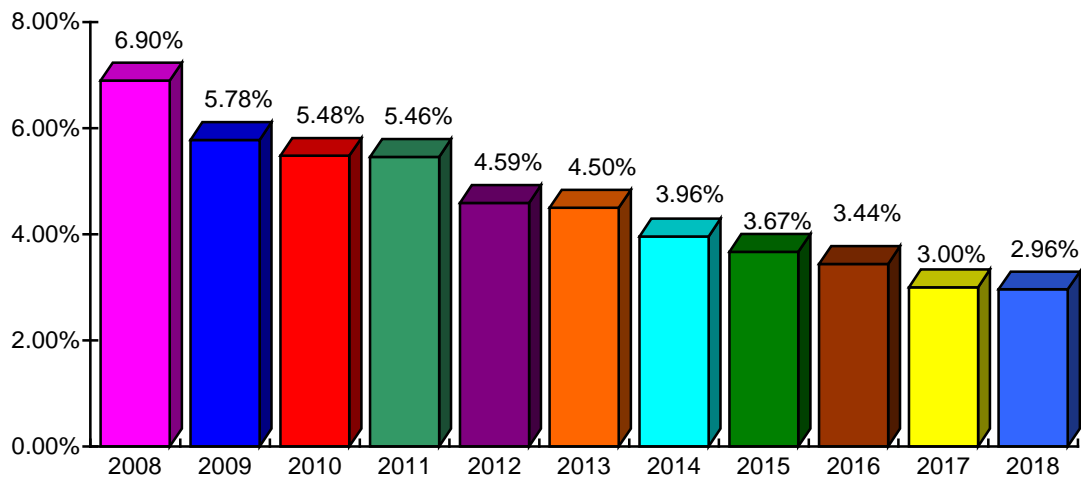
**Figure 12: NO. OF DEFICIENCIES**



**Figure 13: NO. OF DETENTIONS**



**Figure 14: DETENTION PERCENTAGE**



## ANNEX 1

## STATUS OF THE RELEVANT INSTRUMENTS

Table 1: STATUS OF THE RELEVANT INSTRUMENTS

(Date of deposit of instruments)

(as at 31 December 2018)

Authority	LOAD LINES 66	LOAD LINES PROT 88	SOLAS 74	SOLAS PROT 78	SOLAS PROT 88	MARPOL 73/78	STCW 78
Australia	29/07/68	07/02/97	17/08/83	17/08/83	07/02/97	14/10/87	07/11/83
Canada	14/01/70	08/04/10	08/05/78	-	08/04/10	16/11/92	06/11/87
Chile	10/03/75	03/03/95	28/03/80	15/07/92	29/09/95	10/10/94	09/06/87
China	05/10/73	03/02/95	07/01/80	17/12/82	03/02/95	01/07/83	08/06/81
Fiji	29/11/72	28/07/04	04/03/83	28/07/04	28/07/04	08/03/16	27/03/91
Hong Kong, China*	16/08/72	23/10/02	25/05/80	14/11/81	23/10/02	11/04/85	03/11/84
Indonesia	17/01/77	28/11/17	17/02/81	23/08/88	28/11/17	21/10/86	27/01/87
Japan	15/05/68	24/06/97	15/05/80	15/05/80	24/06/97	09/06/83	27/05/82
Republic of Korea	10/07/69	14/11/94	31/12/80	02/12/82	14/11/94	23/07/84	04/04/85
Malaysia	12/01/71	11/11/11	19/10/83	19/10/83	11/11/11	31/01/97	31/01/92
Marshall Islands	26/04/88	29/11/94	26/04/88	26/04/88	16/10/95	26/04/88	25/04/89
New Zealand	05/02/70	03/06/01	23/02/90	23/02/90	03/06/01	25/09/98	30/07/86
Papua New Guinea	18/05/76	-	12/11/80	-	-	25/10/93	28/10/91
Peru	18/01/67	24/06/09	04/12/79	16/07/82	21/08/09	25/04/80	16/07/82
Philippines	04/03/69	24/04/18	15/12/81	24/04/18	06/06/18	15/06/01	22/02/84
Russian Federation	04/07/66	18/08/00	09/01/80	12/05/81	18/08/00	03/11/83	09/10/79
Singapore	21/09/71	18/08/99	16/03/81	01/06/84	10/08/99	01/11/90	01/05/88
Thailand	30/12/92	-	18/12/84	-	-	02/11/07	19/06/97
Vanuatu	28/07/82	26/11/90	28/07/82	28/07/82	14/09/92	13/04/89	22/04/91
Viet Nam	18/12/90	27/05/02	18/12/90	12/10/92	27/05/02	29/05/91	18/12/90
Mexico	25/03/70	13/05/94	28/03/77	30/06/83	13/05/94	23/04/92	02/02/82
Panama	13/05/66	17/09/07	09/03/78	14/07/82	17/09/07	20/02/85	29/06/92
DPR Korea	18/10/89	08/08/01	01/05/85	01/05/85	08/08/01	01/05/85	01/05/85
Macao, China*	18/07/05	11/10/10	20/12/99	20/12/99	24/06/05	20/12/99	18/07/05
Samoa	23/10/79	18/05/04	14/03/97	14/03/97	18/05/04	07/02/02	24/05/93
Solomon Islands	30/06/04	-	30/06/04	-	-	30/06/04	01/06/94
Tonga	12/04/77	15/06/00	12/04/77	18/09/03	15/06/00	01/02/96	07/02/95
Entry into force date	21/07/68	03/02/00	25/05/80	01/05/81	03/02/00	02/10/83	28/04/84

\* Effective date of extension of instruments.

(as at 31 December 2018)

Authority	COLREG 72	TONNAGE 69	ILO 147**	MLC 2006***	AFS 2001	CLC PROT 92	BWM 2004
Australia	29/02/80	21/05/82	-	21/12/11	09/01/07	09/10/95	07/06/17
Canada	07/03/75	18/07/94	D	15/06/10	08/04/10	29/05/98	08/04/10
Chile	02/08/77	22/11/82	-	22/02/18	06/10/16	29/05/02	-
China	07/01/80	08/04/80	-	12/11/15	07/03/11	05/01/99	22/10/18
Fiji	04/03/83	29/11/72	-	21/01/13	08/03/16	30/11/99	08/03/16
Hong Kong, China*	15/07/77	18/07/82	-	06/08/18	15/02/16	05/01/99	-
Indonesia	13/11/79	14/03/89	-	12/06/17	11/09/14	06/07/99	24/11/15
Japan	21/06/77	17/07/80	D	05/08/13	08/07/03	24/08/94	10/10/14
Republic of Korea	29/07/77	18/01/80	-	09/01/14	24/07/08	07/03/97	10/12/09
Malaysia	23/12/80	24/04/84	-	20/08/13	27/09/10	09/06/04	27/09/10
Marshall Islands	26/04/88	25/04/89	-	25/09/07	09/05/08	16/10/95	26/11/09
New Zealand	26/11/76	06/01/78	-	09/03/16	-	25/06/98	09/01/17
Papua New Guinea	18/05/76	25/10/93	-	-	-	23/01/01	-
Peru	09/01/80	16/07/82	06/07/04	-	-	01/09/05	10/06/16
Philippines	10/06/13	06/09/78	-	20/08/12	06/06/18	07/07/97	06/06/18
Russian Federation	09/11/73	20/11/69	D	20/08/12	19/10/12	20/03/00	24/05/12
Singapore	29/04/77	06/06/85	-	15/06/11	31/12/09	18/09/97	08/06/17
Thailand	06/08/79	11/06/96	-	07/06/16	-	17/07/17	-
Vanuatu	28/07/82	13/01/89	-	-	20/08/08	18/02/99	-
Viet Nam	18/12/90	18/12/90	-	08/05/13	27/11/15	17/06/03	-
Mexico	08/04/76	14/07/72	-	-	07/07/06	13/05/94	18/03/08
Panama	14/03/79	09/03/78	-	06/02/09	17/09/07	18/03/99	19/10/16
DPR Korea	01/05/85	18/10/89	-	-	-	-	-
Macao, China*	20/12/99	18/07/05	-	-	07/03/11	24/06/05	22/10/18
Samoa	23/10/79	18/05/04	-	21/11/13	-	01/02/02	-
Solomon Islands	12/03/82	30/06/04	-	-	-	30/06/04	-
Tonga	12/04/97	12/04/97	-	-	16/04/14	10/12/99	16/04/14
Entry into force date	15/07/77	18/07/82	28/11/81	20/08/13	17/09/08	30/05/96	08/09/17

\* Effective date of extension of instruments.

\*\* Although some Authorities have not ratified the ILO Convention No.147, parts of the ILO conventions referred to therein are implemented under their national legislation and port State control is carried out on matters covered by the national regulations.

\*\*\* MLC 2006 will supersede ILO147 if the Authority ratified both of them.

**Table 1a: STATUS OF MARPOL 73/78**

(Date of deposit of instruments)

(As at 31 December 2018)

<b>Authority</b>	<b>Annexes I &amp; II</b>	<b>Annex III</b>	<b>Annex IV</b>	<b>Annex V</b>	<b>Annex VI</b>
Australia	14/10/87	10/10/94	27/02/04	14/08/90	07/08/07
Canada	16/11/92	08/08/02	26/03/10	26/03/10	26/03/10
Chile	10/10/94	10/10/94	10/10/94	15/08/08	16/10/06
China	01/07/83	13/09/94	02/11/06	21/11/88	23/05/06
Fiji	08/03/16	-	08/03/16	08/03/16	-
Hong Kong, China*	11/04/85	07/03/95	02/11/06	27/03/96	20/03/08
Indonesia	21/10/86	24/08/12	24/08/12	24/08/12	24/08/12
Japan	09/06/83	09/06/83	09/06/83	09/06/83	15/02/05
Republic of Korea	23/07/84	28/02/96	28/11/03	28/02/96	20/04/06
Malaysia	31/01/97	27/09/10	27/09/10	31/01/97	27/09/10
Marshall Islands	26/04/88	26/04/88	26/04/88	26/04/88	07/03/02
New Zealand	25/09/98	25/09/98	-	25/09/98	-
Papua New Guinea	25/10/93	25/10/93	25/10/93	25/10/93	-
Peru	25/04/80	25/04/80	25/04/80	25/04/80	04/12/14
Philippines	15/06/01	15/06/01	15/06/01	15/06/01	24/04/18
Russian Federation	03/11/83	14/08/87	14/08/87	14/08/87	08/04/11
Singapore	01/11/90	02/03/94	01/05/05	27/05/99	08/10/00
Thailand	02/11/07	-	-	-	-
Vanuatu	13/04/89	22/04/91	15/03/04	22/04/91	15/03/04
Viet Nam	29/05/91	19/12/14	19/12/14	19/12/14	19/12/14
Mexico	23/04/92	-	-	15/07/98	-
Panama	20/02/85	20/02/85	20/02/85	20/02/85	13/05/03
DPR Korea	01/05/01	01/05/01	01/05/01	01/05/01	-
Macao, China*	20/12/99	20/12/99	02/11/06	20/12/99	23/05/06
Samoa	07/02/02	07/02/02	07/02/02	07/02/02	18/05/04
Solomon Islands	30/06/04	30/06/04	30/06/04	30/06/04	-
Tonga	01/02/96	01/02/96	01/02/96	01/02/96	20/03/15
Entry into force date	02/10/1983	01/07/1992	27/09/2003	31/12/1988	19/05/2005

\* Effective date of extension of instruments.

## ANNEX 2

## PORT STATE INSPECTION STATISTICS

## STATISTICS FOR 2018

Table 2: PORT STATE INSPECTIONS CARRIED OUT BY AUTHORITIES

Authority	No. of individual ships inspected (a)	No. of initial and follow-up inspections (b+c)	No. of initial inspections (b)	No. of follow-up inspections (c)	No. of inspections with deficiencies (d)	No. of deficiencies <sup>1)</sup> (e)	No. of detentions <sup>1)</sup> (f)	No. of individual ships visited <sup>2)</sup> (g)	Inspection rate (a/g%)	Detention percentage (f/b%)
Australia <sup>3)</sup>	2,617	4,782	2,922	1,860	1,381	5,320	161	6,015	43.51	5.51
Canada <sup>4)</sup>	507	511	511	0	251	842	3	2,029	24.99	0.59
Chile	786	1,197	831	366	327	791	12	1,876	41.90	1.44
China	5,964	9,374	7,549	1,825	6,309	26,363	360	15,992	37.29	4.77
Fiji	54	102	64	38	18	51	0	230	23.48	0.00
Hong Kong, China	708	979	716	263	634	3,407	24	5,235	13.52	3.35
Indonesia	1,515	2,045	1,803	242	724	2,547	60	7,694	19.69	3.33
Japan	3,458	6,721	5,173	1,548	3,056	13,704	100	7,436	46.50	1.93
Republic of Korea	1,640	2,922	1,925	997	1,304	4,898	67	9,952	16.48	3.48
Malaysia	1,292	1,891	1,567	324	610	2,481	13	6,972	18.53	0.83
Marshall Islands	21	27	21	6	10	69	3	90	23.33	14.29
New Zealand	239	395	288	107	142	601	16	1,052	22.72	5.56
Papua New Guinea	126	262	154	108	113	491	5	488	25.82	3.25
Peru	509	646	544	102	140	309	4	1,814	28.06	0.74
Philippines	2,040	3,554	2,976	578	553	1,130	1	3,296	61.89	0.03
Russian Federation <sup>4)</sup>	775	2,268	1,162	1,106	963	5,201	90	2,411	32.14	7.75
Singapore	933	1,425	1,097	328	704	3,027	15	13,866	6.73	1.37
Thailand	479	776	669	107	75	163	0	3,981	12.03	0
Vanuatu	3	4	4	0	0	0	0	80	3.75	0
Viet Nam	1,299	2,038	1,613	425	777	2,046	0	3,825	33.96	0
<b>Total</b>	<b>17,301</b>	<b>41,919</b>	<b>31,589</b>	<b>10,330</b>	<b>18,091</b>	<b>73,441</b>	<b>934</b>	<b>Regional 24,767</b>	<b>Regional 70%</b>	<b>Regional 2.96%</b>

1) Numbers of deficiencies and detentions do not include those related to security.

2) LLI data for 2018.

3) Data for Australia is also provided to Indian Ocean MOU.

4) Data are only for the Pacific ports.

Table 2a: PORT STATE INSPECTIONS ON MARITIME SECURITY

Authority	No. of inspections	No. of inspections with security related deficiencies	No. of security related deficiencies	No. of security related detentions	Detention percentage (%)
Australia	2,922	0	0	0	0
Canada	511	4	4	0	0
Chile	831	7	7	0	0
China	7,549	543	683	3	0.04
Fiji	64	1	1	0	0
Hong Kong, China	716	63	64	0	0
Indonesia	1,803	33	35	0	0
Japan	5,173	218	234	1	0.02
Republic of Korea	1,925	133	149	2	0.10
Malaysia	1,567	40	42	1	0.06
Marshall Islands	21	0	0	0	0
New Zealand	288	4	5	0	0
Papua New Guinea	154	3	3	0	0
Peru	544	7	7	1	0.18
Philippines	2,976	94	112	0	0
Russian Federation	1,162	74	84	3	0.26
Singapore	1,097	33	33	0	0
Thailand	669	6	6	0	0
Vanuatu	4	0	0	0	0
Viet Nam	1,613	47	47	0	0
<b>Total</b>	<b>31,589</b>	<b>1,310</b>	<b>1,516</b>	<b>11</b>	<b>Regional 0.03%</b>

Note: Security related data showing in the above table and the tables of deficiency by category are excluded from all other statistical tables and figures in this report.

Table 3: PORT STATE INSPECTIONS PER SHIP RISK PROFILE

Authority	Ship Risk Profile (SRP)				Total No. of inspections
	HRS	SRS	LRS	SRP Unknown	
Australia	541	1,019	1,277	85	2,922
Canada	91	153	233	34	511
Chile	136	386	309	0	831
China	3,055	2,343	1,868	283	7,549
Fiji	26	15	23	0	64
Hong Kong, China	256	271	189	0	716
Indonesia	461	744	598	0	1,803
Japan	2,219	1,790	1,127	37	5,173
Republic of Korea	830	537	453	105	1,925
Malaysia	415	605	474	73	1,567
Marshall Islands	5	9	7	0	21
New Zealand	114	101	73	0	288
Papua New Guinea	63	66	25	0	154
Peru	86	227	231	0	544
Philippines	711	1,066	1,198	1	2,976
Russian Federation	733	271	158	0	1,162
Singapore	392	463	242	0	1,097
Thailand	124	283	262	0	669
Vanuatu	0	1	3	0	4
Viet Nam	759	541	313	0	1,613
<b>Total</b>	<b>11,017</b>	<b>10,891</b>	<b>9,063</b>	<b>618</b>	<b>31,589</b>



Table 4: PORT STATE INSPECTIONS PER FLAG

Flag	No. of inspections	No. of inspections with deficiencies	No. of deficiencies	No. of detentions	Detention percentage %
Antigua and Barbuda	280	162	571	10	3.57
Argentina	1	1	1	0	0
Australia	2	0	0	0	0
Bahamas	749	309	1,032	9	1.20
Bangladesh	62	53	205	2	3.23
Barbados	26	20	130	5	19.23
Belgium	39	17	53	0	0
Belize	823	785	4,663	64	7.78
Bermuda (UK)	48	13	32	0	0
Brazil	3	2	16	0	0
Brunei Darussalam	6	0	0	0	0
Cameroon	1	1	7	0	0
Cayman Islands (UK)	109	31	85	1	0.92
Chile	13	3	6	0	0
China	608	298	1,331	2	0.33
Colombia	1	1	6	0	0
Comoros	9	8	45	1	11.11
Cook Islands	31	24	128	3	9.68
Croatia	35	25	105	3	8.57
Curacao	11	5	20	0	0
Cyprus	538	326	1,270	22	4.09
Denmark	203	87	229	2	0.99
Dominica	36	24	148	3	8.33
Ecuador	1	1	2	1	100.00
Egypt	5	5	21	1	20.00
Equatorial Guinea	5	2	3	0	0
Ethiopia	4	4	16	0	0
Falkland Islands (UK) (Malvinas)	2	2	4	0	0
Faroe Islands (Denmark)	1	1	2	0	0
Fiji	2	2	15	0	0
Finland	2	1	8	0	0
France	45	34	115	0	0
Germany	103	60	153	0	0
Gibraltar (UK)	42	22	74	0	0
Greece	328	168	514	9	2.74
Honduras	2	2	14	1	50.00
Hong Kong, China	3,158	1,344	4,181	29	0.92
India	83	47	235	5	6.02

Flag	No. of inspections	No. of inspections with deficiencies	No. of deficiencies	No. of detentions	Detention percentage %
Indonesia	267	211	1,204	17	6.37
Iran	48	41	182	4	8.33
Isle of Man (UK)	221	91	283	3	1.36
Israel	11	7	44	0	0
Italy	115	65	207	4	3.48
Jamaica	22	20	106	4	18.18
Japan	216	111	314	4	1.85
Jordan	2	2	5	1	50.00
Kiribati	66	63	437	9	13.64
Korea, Democratic People's Republic	79	79	759	8	10.13
Korea, Republic of	1,363	964	3,723	14	1.03
Kuwait	24	11	26	0	0
Liberia	2,819	1,573	5,636	88	3.12
Libya	1	0	0	0	0
Lithuania	1	0	0	0	0
Luxembourg	12	6	29	0	0
Malaysia	192	101	396	1	0.52
Maldives	2	2	19	0	0
Malta	1,177	639	2,356	41	3.48
Marshall Islands	2,920	1,359	4,665	67	2.29
Micronesia, Federated States of	3	2	15	1	33.33
Moldova	1	1	22	1	100.00
Mongolia	83	70	582	11	13.25
Montenegro	1	1	1	0	0
Myanmar	12	9	25	0	0
Netherlands	103	70	225	3	2.91
New Zealand	4	3	9	0	0
Niue	43	41	320	4	9.30
Norway	248	117	335	3	1.21
Pakistan	14	7	28	0	0
Palau	74	71	568	8	10.81
Panama	8,151	4,691	18,731	248	3.04
Papua New Guinea	4	3	7	0	0
Peru	5	2	6	0	0
Philippines	197	133	572	11	5.58
Portugal	329	182	683	12	3.65
Qatar	21	13	57	1	4.76
Russian Federation	350	320	1,407	13	3.71
Saint Kitts and Nevis	10	9	82	4	40.00

*MEMORANDUM OF UNDERSTANDING ON PORT STATE CONTROL IN THE ASIA-PACIFIC REGION*

<b>Flag</b>	<b>No. of inspections</b>	<b>No. of inspections with deficiencies</b>	<b>No. of deficiencies</b>	<b>No. of detentions</b>	<b>Detention percentage %</b>
Saint Vincent and the Grenadines	58	49	175	2	3.45
Samoa	2	2	10	1	50.00
Saudi Arabia	49	35	119	1	2.04
Sierra Leone	418	411	2,915	45	10.77
Singapore	2,198	979	3,181	18	0.82
South Africa	2	2	9	0	0
Spain	9	6	12	0	0
Sri Lanka	18	9	29	1	5.56
Sweden	14	4	5	0	0
Switzerland	26	12	52	0	0
Taiwan, China	94	35	120	1	1.06
Tanzania	9	9	114	3	33.33
Thailand	275	184	573	4	1.45
Togo	413	409	2,834	51	12.35
Tonga	2	2	69	2	100.00
Turkey	25	15	46	0	0
Tuvalu	141	91	341	6	4.26
Ukraine	7	7	29	1	14.29
United Kingdom (UK)	191	111	420	7	3.66
United States of America	64	31	92	2	3.13
Vanuatu	68	42	192	4	5.88
Viet Nam	877	665	2,592	26	2.96
Ship's registration withdrawn	1	1	6	1	100.00
<b>Total</b>	<b>31,589</b>	<b>18,091</b>	<b>73,441</b>	<b>934</b>	<b>Regional 2.96</b>

Table 5: PORT STATE INSPECTIONS PER SHIP TYPE

Type of ship	No. of inspections	No. of inspections with deficiencies	No. of deficiencies	No. of detentions	Detention percentage %
NLS tanker	58	29	73	2	3.45
Combination carrier	34	11	49	2	5.88
Oil tanker	2,041	927	3,396	35	1.71
Gas carrier	839	348	1,108	12	1.43
Chemical tanker	2,392	1,095	3,663	40	1.67
Bulk carrier	11,470	6,508	24,591	339	2.96
Vehicle carrier	792	243	571	9	1.14
Container ship	5,705	2,967	10,273	114	2.00
Ro-Ro cargo ship	76	65	310	5	6.58
General cargo/multi-purpose ship	5,828	4,309	22,198	293	5.03
Refrigerated cargo carrier	690	504	2,508	28	4.06
Woodchip carrier	251	105	323	5	1.99
Livestock carrier	66	38	174	4	6.06
Ro-Ro passenger ship	103	89	402	2	1.94
Passenger ship	311	194	734	7	2.25
Factory ship	6	6	9	0	0
Heavy load carrier	107	69	254	6	5.61
Offshore service vessel	125	74	301	2	1.60
MODU & FPSO	4	4	8	0	0
High speed passenger craft	46	38	203	1	2.17
Special purpose ship	79	41	189	4	5.06
High speed cargo craft	1	1	14	0	0
Tugboat	245	188	864	7	2.86
Others	320	238	1,226	17	5.31
<b>Total</b>	<b>31,589</b>	<b>18,091</b>	<b>73,441</b>	<b>934</b>	<b>2.96</b>

Table 6: PORT STATE INSPECTIONS PER RECOGNIZED ORGANIZATION

Recognized organization (RO)	No. of overall inspections	No. of overall detentions	No. of RO responsible detentions	Detention percentage%	RO responsible detention percentage%	Percentage of RO responsible detentions%
American Bureau of Shipping	3,914	73	1	1.87	0.03	1.37
American Register of Shipping	42	0	0	0	0	0
Asia Classification Society	11	0	0	0	0	0
Biro Klasifikasi Indonesia	121	9	4	7.44	3.31	44.44
Bulgarski Koraben Registar	1	0	0	0	0	0
Bureau Veritas	4,045	136	6	3.36	0.15	4.41
C.T.M. Inspection and Classification Company, S. de R.L.	1	1	0	100.00	0	0
China Classification Society	2,561	20	0	0.78	0	0
Cosmos Marine Bureau	114	18	3	15.79	2.63	16.67
CR Classification Society	211	2	0	0.95	0	0
Croatian Register of Shipping	51	3	1	5.88	1.96	33.33
Cyprus Bureau of Shipping	1	0	0	0	0	0
DNV GL AS	8,353	177	3	2.12	0.04	1.69
Dromon Bureau of Shipping	80	11	0	13.75	0	0
Ferriby Marine	1	0	0	0	0	0
Foresight Ship Classification	11	0	0	0	0	0
Global Marine Bureau	5	0	0	0	0	0
Global Shipping Bureau	1	0	0	0	0	0
Hellenic Register of Shipping	3	0	0	0	0	0
Horizon International of Naval Surveying and Inspection Bureau, S.A.	1	0	0	0	0	0
Indian Register of Shipping	84	4	0	4.76	0	0
Intermaritime Certification Services, S.A.	802	44	3	5.49	0.37	6.82
International Maritime Register	9	0	0	0	0	0
International Naval Surveys Bureau	43	3	0	6.98	0	0
International Register of Shipping	135	17	1	12.59	0.74	5.88
International Ship Classification	149	18	4	12.08	2.68	22.22
Iranian Classification Society	31	4	0	12.90	0	0
Isthmus Bureau of Shipping	460	34	1	7.39	0.22	2.94
Isthmus Maritime Classification Society S.A.	9	0	0	0	0	0
Korea Classification Society (former Joson Classification Society)	127	9	3	7.09	2.36	33.33
Korea Ship Safety Technology Authority	26	0	0	0	0	0
Korean Register of Shipping	3,156	55	0	1.74	0	0
Libyan Surveyor Mr. Sif Ennasar Abdulhamid Giahmi	1	0	0	0	0	0
Lloyd's Register	4,939	137	4	2.77	0.08	2.92

Recognized organization (RO)	No. of overall inspections	No. of overall detentions	No. of RO responsible detentions	Detention percentage%	RO responsible detention percentage%	Percentage of RO responsible detentions%
M&P Surveyors, S. de R.L. de C.V.	2	0	0	0	0	0
Macosnar Corporation	53	4	0	7.55	0	0
Maritime Bureau of Africa	15	2	0	13.33	0	0
Maritime Technical Systems and Services	12	1	1	8.33	8.33	100.00
National Shipping Adjusters Inc	8	0	0	0	0	0
New United International Marine Services Ltd	72	9	2	12.50	2.78	22.22
Nippon Kaiji Kyokai	10,876	258	7	2.37	0.06	2.71
Novel Classification Society S.A.	2	0	0	0	0	0
Overseas Marine Certification Services	383	31	2	8.09	0.52	6.45
Panama Bureau of Shipping	19	3	0	15.79	0	0
Panama Marine Survey and Certification Services, Inc.	7	1	0	14.29	0	0
Panama Maritime Documentation Services	480	37	4	7.71	0.83	10.81
Panama Maritime Surveyors Bureau Inc	1	0	0	0	0	0
Panama Register Corporation	28	3	0	10.71	0	0
Panama Shipping Registrar Inc.	57	4	0	7.02	0	0
Phoenix Register of Shipping	9	1	1	11.11	11.11	100.00
Polski Rejestr Statkow	53	2	0	3.77	0	0
Registro Brasileiro de Navios de Aeronaves	1	0	0	0	0	0
RINA Services S.p.A.	1,189	45	0	3.78	0	0
RINAVE Portuguesa	5	0	0	0	0	0
Russian Maritime Register of Shipping	493	19	0	3.85	0	0
Ship Classification Malaysia	31	0	0	0	0	0
Shipping Register of Ukraine	7	1	0	14.29	0	0
SingClass International Pte Ltd	50	8	2	16.00	4.00	25.00
Sing-Lloyd	90	5	0	5.56	0	0
Union Bureau of Shipping	406	38	5	9.36	1.23	13.16
Universal Maritime Bureau	253	28	1	11.07	0.40	3.57
Universal Shipping Bureau	2	0	0	0	0	0
Venezuelan Register of Shipping	4	0	0	0	0	0
Vietnam Register	906	26	0	2.87	0	0
Other	30	2	0	6.67	0	0

Note: The number of overall inspections and overall detentions is calculated corresponding to each recognized organization (RO) that issued statutory certificate(s) for a ship. In case that ship's certificates were issued by more than one ROs, the inspection and detention would be counted to each of them.

Table 7: DEFICIENCIES BY CATEGORIES

Nature of deficiencies		No. of deficiencies
Certificate & Documentation	Crew Certificates	1,148
	Documents	3,814
	Ship Certificates	1,782
Structural Conditions		2,046
Water/Weathertight conditions		5,017
Emergency Systems		4,128
Radio Communications		1,570
Cargo operations including equipment		711
Fire safety		13,340
Alarms		520
Safety of Navigation		10,127
Life saving appliances		9,363
Dangerous goods		195
Propulsion and auxiliary machinery		3,785
Working and Living Conditions	Living Conditions	410
	Working Conditions	2,126
Labour Conditions	Minimum requirements for seafarers	48
	Conditions of employment	545
	Accommodation, recreational facilities, food and catering	1,094
	Health protection, medical care, social security	2,571
Pollution prevention	Anti Fouling	16
	Ballast Water	812
	MARPOL Annex I	1,508
	MARPOL Annex II	16
	MARPOL Annex III	13
	MARPOL Annex IV	1,256
	MARPOL Annex V	1,673
MARPOL Annex VI	1,623	
ISM		1,616
Other		568
<b>Total</b>		<b>73,441</b>
ISPS		1,516
<b>Grand total</b>		<b>74,957</b>

## SUMMARY OF PORT STATE INSPECTION DATA 2016 – 2018

Table 8: BLACK – GREY – WHITE LISTS \*

Flag	Inspections 2016-2018	Detentions 2016-2018	Black to Grey Limit	Grey to White Limit	Excess Factor
<b>BLACK LIST</b>					
Fiji <sup>(1)</sup>	44	14	6		5.55
Tanzania	130	32	14		4.87
Cambodia	452	76	41		3.34
Togo	1,110	149	92		2.60
Mongolia	278	40	27		2.37
Micronesia, Federated States of <sup>(2)</sup>	372	46	35		1.90
Palau	209	27	21		1.79
Niue	155	21	17		1.79
Korea, Democratic People's Republic	539	62	48		1.78
Sierra Leone	1,149	114	95		1.51
Barbados	59	9	8		1.49
Indonesia	659	58	57		1.03
<b>GREY LIST</b>					
Saint Kitts and Nevis	46	6	7	0	0.92
Jamaica	98	10	12	2	0.84
Dominica	72	7	9	1	0.74
Kiribati	336	24	32	15	0.53
Cook Islands	104	7	12	2	0.47
Pakistan	34	2	5	0	0.44
Croatia	95	6	11	2	0.43
Iran	135	8	15	4	0.37
Sri Lanka	49	2	7	0	0.29
Belize	2,411	158	190	148	0.24
Vanuatu	221	12	22	9	0.24
Turkey	114	5	13	3	0.20
Curacao	42	1	6	0	0.20
Bangladesh	156	6	17	5	0.07
Switzerland	105	3	12	3	0.05

<sup>(1)</sup> In January 2017, a notification was received from the Authority of Fiji, advising that some ships were fraudulently registered under its flag and trading internationally. In this connection, it would be possible that the inspections and detentions for Fiji involve the above mentioned fraudulently registered ships.

<sup>(2)</sup> In February 2017, a notification by the Permanent Mission of the Federated States of Micronesia (FSM) to the United Nations was received, advising that the laws of FSM do not provide or allow for an international ship registry and, therefore, ships registered under Micronesia International Ship Registry were fraudulent. In this connection, it would be possible that the inspections and detentions for Micronesia involve the above mentioned fraudulently registered ships.



Flag	Inspections 2016-2018	Detentions 2016-2018	Black to Grey Limit	Grey to White Limit	Excess Factor
India	250	11	25	10	0.04
<b>WHITE LIST</b>					
Chile	33	0		0	0
Saudi Arabia	136	4		4	-0.04
Kuwait	75	1		1	-0.08
Sweden	53	0		0	-0.18
Philippines	614	29		32	-0.19
Taiwan, China	297	10		13	-0.42
Netherlands	304	10		13	-0.47
Italy	338	11		15	-0.53
Saint Vincent and the Grenadines	199	5		8	-0.55
Gibraltar (UK)	157	3		5	-0.64
United States of America	161	3		5	-0.68
France	134	2		4	-0.70
Russian Federation	983	34		55	-0.80
Thailand	820	27		45	-0.82
Luxembourg	77	0		1	-0.83
Cyprus	1,582	57		94	-0.84
Malta	3,318	122		208	-0.91
Viet Nam	2,407	84		147	-0.94
Bermuda (UK)	198	3		7	-0.97
Tuvalu	391	9		19	-0.98
Antigua and Barbuda	1,077	31		61	-1.04
Malaysia	571	14		29	-1.05
Portugal	741	19		40	-1.08
Belgium	96	0		2	-1.14
United Kingdom (UK)	558	12		29	-1.17
Greece	1,009	25		57	-1.18
Panama	24,925	812		1678	-1.18
Isle of Man (UK)	649	14		34	-1.21
Liberia	7,787	224		508	-1.27
Marshall Islands	7,958	188		519	-1.45
Denmark	558	8		29	-1.48
Japan	624	8		33	-1.57
Bahamas	2,270	40		138	-1.58
Norway	753	10		41	-1.59
Germany	321	2		14	-1.67
Cayman Islands (UK)	326	2		15	-1.68
Korea, Republic of	4,169	35		264	-1.96
Hong Kong, China	9,464	80		621	-1.99
Singapore	6,811	54		442	-2.00
China	1,810	7		108	-2.34

- Note: 1) Flags listed above are those of ships which were involved in 30 or more port State inspections over the 3-year period.
- 2) According to the decision by the Port State Control Committee, flags involving 30-49 port State inspections with nil detentions are listed on top of the White List.

\* See explanatory note on page 55.

$p=7\%$

$Z_{95\%}=1.645$

$q=3\%$

Table 9: INSPECTIONS AND DETENTIONS PER FLAG

Flag	Number of inspections				Number of detentions				3-year rolling average detention %
	2016	2017	2018	Total	2016	2017	2018	Total	
Antigua and Barbuda	423	374	280	1,077	17	4	10	31	2.88
Argentina	0	2	1	3	0	0	0	0	0
Australia	12	13	2	27	0	0	0	0	0
Bahamas	764	757	749	2,270	14	17	9	40	1.76
Bahrain	2	2	0	4	0	1	0	1	25.00
Bangladesh	42	52	62	156	2	2	2	6	3.85
Barbados	14	19	26	59	1	3	5	9	15.25
Belgium	27	30	39	96	0	0	0	0	0
Belize	712	876	823	2,411	40	54	64	158	6.55
Bermuda (UK)	81	69	48	198	3	0	0	3	1.52
Brazil	4	7	3	14	0	0	0	0	0
Brunei Darussalam	11	6	6	23	1	0	0	1	4.35
Cambodia	450	2	0	452	76	0	0	76	16.81
Cameroon	0	0	1	1	0	0	0	0	0
Cayman Islands (UK)	100	117	109	326	1	0	1	2	0.61
Chile	10	10	13	33	0	0	0	0	0
China	659	543	608	1,810	4	1	2	7	0.39
Colombia	0	0	1	1	0	0	0	0	0
Comoros	3	16	9	28	1	4	1	6	21.43
Cook Islands	40	33	31	104	2	2	3	7	6.73
Croatia	23	37	35	95	3	0	3	6	6.32
Curacao	20	11	11	42	0	1	0	1	2.38
Cyprus	512	532	538	1,582	21	14	22	57	3.60
Denmark	182	173	203	558	2	4	2	8	1.43
Dominica	10	26	36	72	3	1	3	7	9.72
Ecuador	3	2	1	6	1	0	1	2	33.33
Egypt	6	6	5	17	0	0	1	1	5.88
Equatorial Guinea	0	1	5	6	0	0	0	0	0
Estonia	1	0	0	1	0	0	0	0	0
Ethiopia	4	9	4	17	0	2	0	2	11.76
Falkland Islands (UK) (Malvinas)	1	3	2	6	0	0	0	0	0
Faroe Islands (Denmark)	1	1	1	3	0	0	0	0	0
Fiji	19	23	2	44	3	11	0	14	31.82
Finland	0	1	2	3	0	0	0	0	0
France	43	46	45	134	2	0	0	2	1.49

Flag	Number of inspections				Number of detentions				3-year rolling average detention %
	2016	2017	2018	Total	2016	2017	2018	Total	
Germany	110	108	103	321	1	1	0	2	0.62
Gibraltar (UK)	65	50	42	157	2	1	0	3	1.91
Greece	361	320	328	1,009	11	5	9	25	2.48
Honduras	1	1	2	4	1	0	1	2	50.00
Hong Kong, China	3197	3109	3158	9,464	30	21	29	80	0.85
India	79	88	83	250	2	4	5	11	4.40
Indonesia	196	196	267	659	24	17	17	58	8.80
Iran	43	44	48	135	2	2	4	8	5.93
Ireland	1	0	0	1	0	0	0	0	0
Isle of Man (UK)	200	228	221	649	6	5	3	14	2.16
Israel	9	5	11	25	2	0	0	2	8.00
Italy	104	119	115	338	4	3	4	11	3.25
Jamaica	40	36	22	98	3	3	4	10	10.20
Japan	213	195	216	624	3	1	4	8	1.28
Jordan	0	1	2	3	0	0	1	1	33.33
Kiribati	150	120	66	336	5	10	9	24	7.14
Korea, Democratic People's Republic	275	185	79	539	25	29	8	62	11.50
Korea, Republic of	1412	1394	1363	4,169	14	7	14	35	0.84
Kuwait	30	21	24	75	1	0	0	1	1.33
Lebanon	2	0	0	2	0	0	0	0	0
Liberia	2448	2520	2819	7,787	63	73	88	224	2.88
Libya	4	5	1	10	0	1	0	1	10.00
Lithuania	0	0	1	1	0	0	0	0	0
Luxembourg	44	21	12	77	0	0	0	0	0
Malaysia	193	186	192	571	10	3	1	14	2.45
Maldives	1	0	2	3	1	0	0	1	33.33
Malta	1017	1124	1177	3,318	41	40	41	122	3.68
Marshall Islands	2371	2667	2920	7,958	68	53	67	188	2.36
Mauritius	1	1	0	2	0	0	0	0	0
Micronesia, Federated States of	302	67	3	372	37	8	1	46	12.37
Moldova	3	1	1	5	0	1	1	2	40.00
Mongolia	108	87	83	278	16	13	11	40	14.39
Montenegro	1	4	1	6	0	0	0	0	0.00
Myanmar	5	7	12	24	0	1	0	1	4.17
Netherlands	100	101	103	304	3	4	3	10	3.29
New Zealand	3	3	4	10	0	0	0	0	0

Flag	Number of inspections				Number of detentions				3-year rolling average detention %
	2016	2017	2018	Total	2016	2017	2018	Total	
Niue	53	59	43	155	8	9	4	21	13.55
Norway	256	249	248	753	5	2	3	10	1.33
Pakistan	8	12	14	34	0	2	0	2	5.88
Palau	46	89	74	209	7	12	8	27	12.92
Panama	8513	8261	8151	24,925	291	273	248	812	3.26
Papua New Guinea	10	8	4	22	6	1	0	7	31.82
Peru	4	3	5	12	1	1	0	2	16.67
Philippines	204	213	197	614	5	13	11	29	4.72
Poland	1	0	0	1	0	0	0	0	0
Portugal	187	225	329	741	4	3	12	19	2.56
Qatar	1	7	21	29	0	1	1	2	6.90
Russian Federation	325	308	350	983	15	6	13	34	3.46
Saint Kitts and Nevis	15	21	10	46	0	2	4	6	13.04
Saint Vincent and the Grenadines	75	66	58	199	1	2	2	5	2.51
Samoa	0	3	2	5	0	1	1	2	40.00
Saudi Arabia	42	45	49	136	2	1	1	4	2.94
Seychelles	3	0	0	3	1	0	0	1	33.33
Sierra Leone	310	421	418	1,149	32	37	45	114	9.92
Singapore	2304	2309	2198	6,811	18	18	18	54	0.79
Solomon Islands	6	0	0	6	0	0	0	0	0
South Africa	2	2	2	6	0	0	0	0	0
Spain	9	8	9	26	0	0	0	0	0
Sri Lanka	15	16	18	49	0	1	1	2	4.08
Sweden	24	15	14	53	0	0	0	0	0
Switzerland	43	36	26	105	1	2	0	3	2.86
Taiwan, China	108	95	94	297	7	2	1	10	3.37
Tanzania	88	33	9	130	17	12	3	32	24.62
Thailand	276	269	275	820	13	10	4	27	3.29
Togo	251	446	413	1,110	35	63	51	149	13.42
Tonga	3	3	2	8	0	0	2	2	25.00
Turkey	45	44	25	114	2	3	0	5	4.39
Tuvalu	111	139	141	391	2	1	6	9	2.30
Ukraine	3	7	7	17	0	2	1	3	17.65
United Arab Emirates (UAE)	4	0	0	4	0	0	0	0	0
United Kingdom (UK)	190	177	191	558	2	3	7	12	2.15
United States of America	49	48	64	161	1	0	2	3	1.86

Flag	Number of inspections				Number of detentions				3-year rolling average detention %
	2016	2017	2018	Total	2016	2017	2018	Total	
Uruguay	0	1	0	1	0	1	0	1	100.00
Vanuatu	79	74	68	221	7	1	4	12	5.43
Viet Nam	742	788	877	2,407	30	28	26	84	3.49
Ship's registration withdrawn	5	2	1	8	5	1	1	7	87.50
<b>Total</b>	<b>31,678</b>	<b>31,315</b>	<b>31,589</b>	<b>94,582</b>	<b>1,090</b>	<b>941</b>	<b>934</b>	<b>2,965</b>	<b>3.13</b>

Figure 15: COMPARISON OF INSPECTIONS PER SHIP TYPE

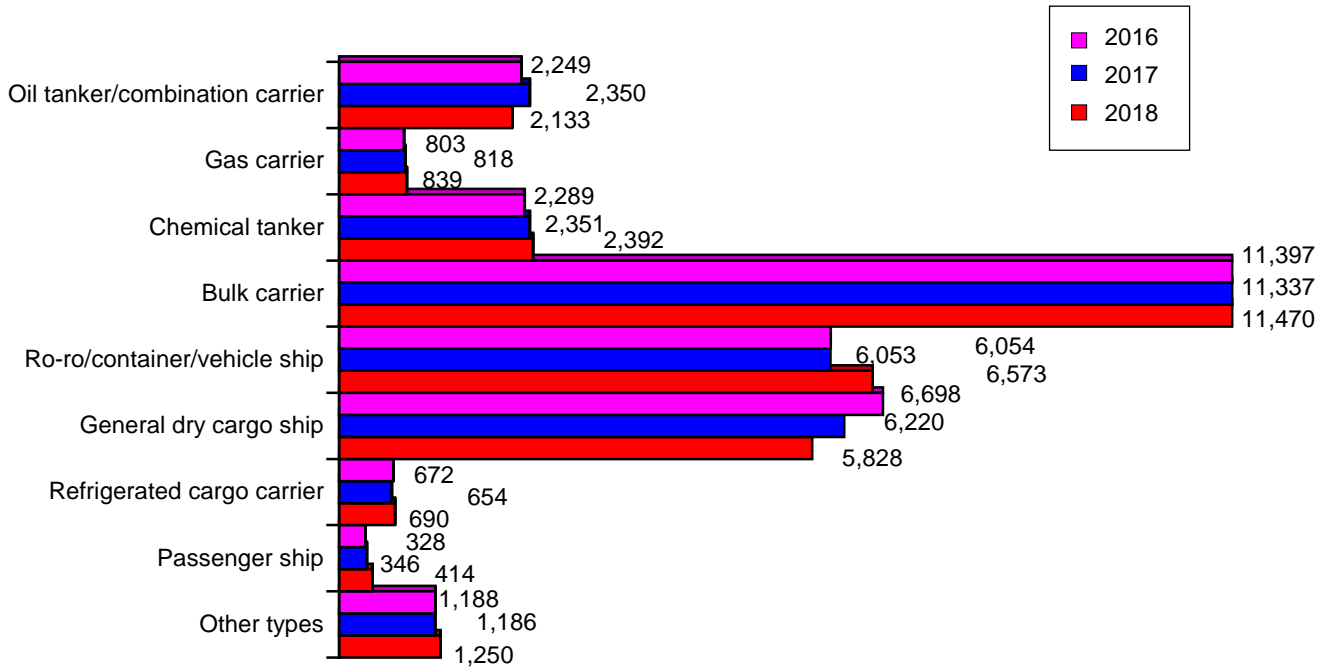


Figure 16: COMPARISON OF DETENTIONS PER SHIP TYPE

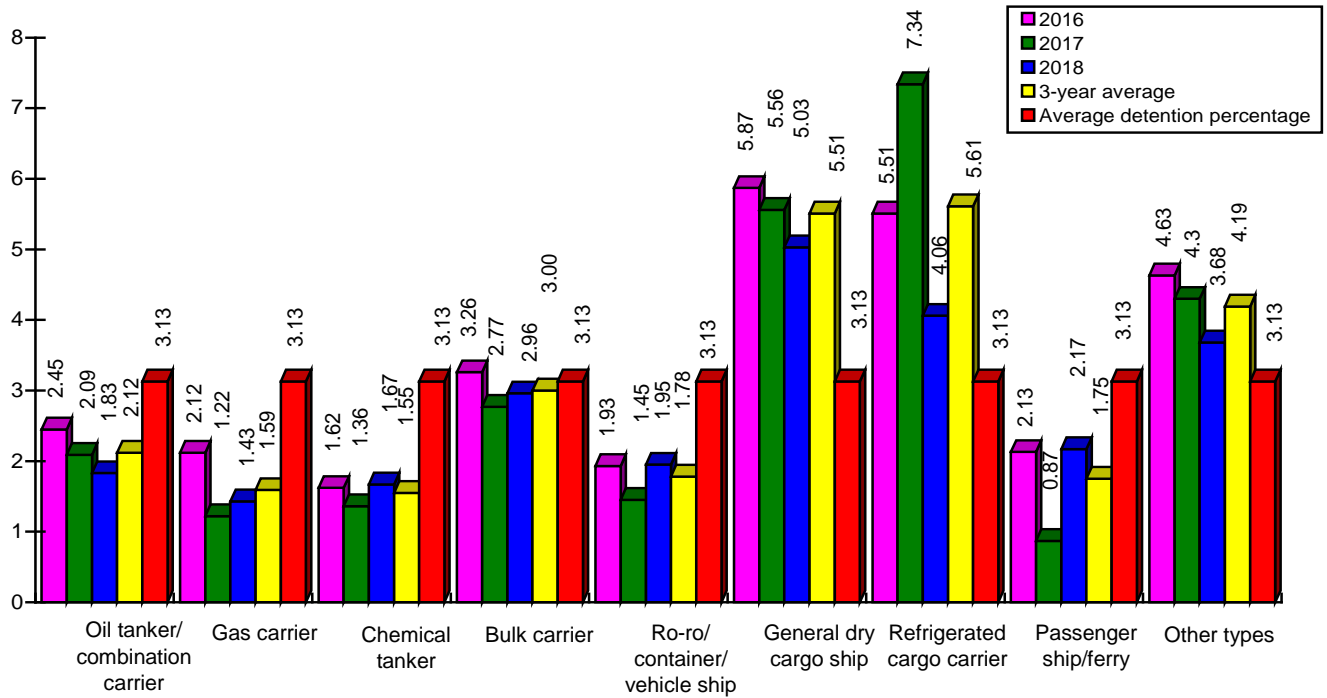
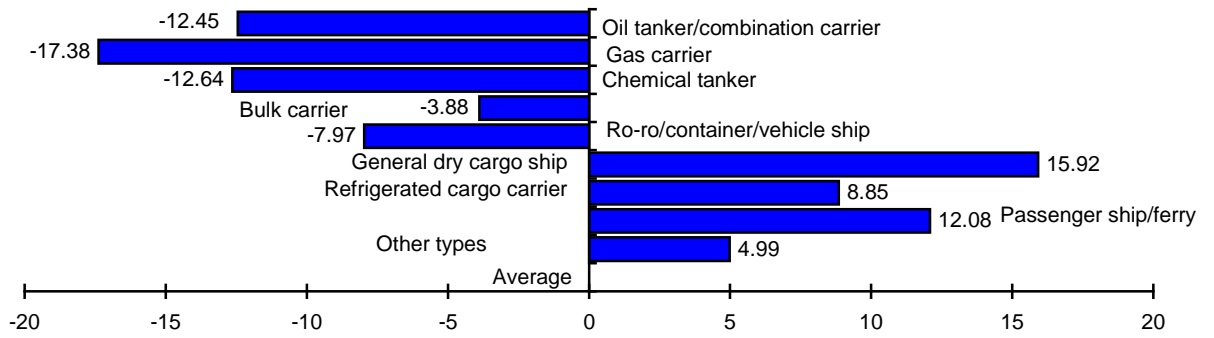




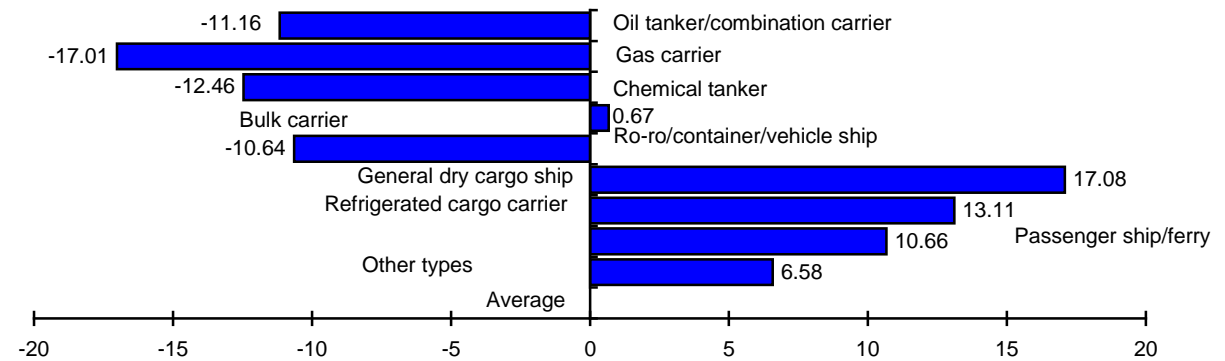
Table 10: INSPECTIONS AND DETENTIONS PER SHIP TYPE

Type of ship	Number of inspections				Number of detentions				Average detention percentage %
	2016	2017	2018	Total	2016	2017	2018	Total	
NLS tanker	61	70	58	189	4	2	2	8	4.23
Combination carrier	38	36	34	108	1	0	2	3	2.78
Oil tanker	2,150	2,244	2,041	6,435	50	47	35	132	2.05
Gas carrier	803	818	839	2,460	17	10	12	39	1.59
Chemical tanker	2,289	2,351	2,392	7,032	37	32	40	109	1.55
Bulk carrier	11,397	11,337	11,470	34,204	372	314	339	1,025	3.00
Vehicle carrier	889	806	792	2,487	9	4	9	22	0.88
Container ship	5,058	5,154	5,705	15,917	99	78	114	291	1.83
Ro-Ro cargo ship	107	93	76	276	9	6	5	20	7.25
General cargo/multi-purpose ship	6,698	6,220	5,828	18,746	393	346	293	1,032	5.51
Refrigerated cargo carrier	672	654	690	2,016	37	48	28	113	5.61
Woodchip carrier	243	235	251	729	6	3	5	14	1.92
Livestock carrier	71	65	66	202	4	5	4	13	6.44
Ro-Ro Passenger ship	101	85	103	289	3	0	2	5	1.73
Passenger ship	227	261	311	799	4	3	7	14	1.75
Factory ship	3	9	6	18	0	1	0	1	5.56
Heavy load carrier	79	81	107	267	4	3	6	13	4.87
Offshore service vessel	128	101	125	354	4	3	2	9	2.54
MODU & FPSO	1	3	4	8	0	0	0	0	0.00
High speed passenger craft	23	30	46	99	0	1	1	2	2.02
Special purpose ship	71	84	79	234	3	1	4	8	3.42
High speed cargo craft	0	0	1	1	0	0	0	0	0.00
Tugboat	229	214	245	688	14	10	7	31	4.51
Others	340	364	320	1,024	20	24	17	61	5.96
<b>Total</b>	<b>31,678</b>	<b>31,315</b>	<b>31,589</b>	<b>94,582</b>	<b>1,090</b>	<b>941</b>	<b>934</b>	<b>2,965</b>	<b>3.13</b>

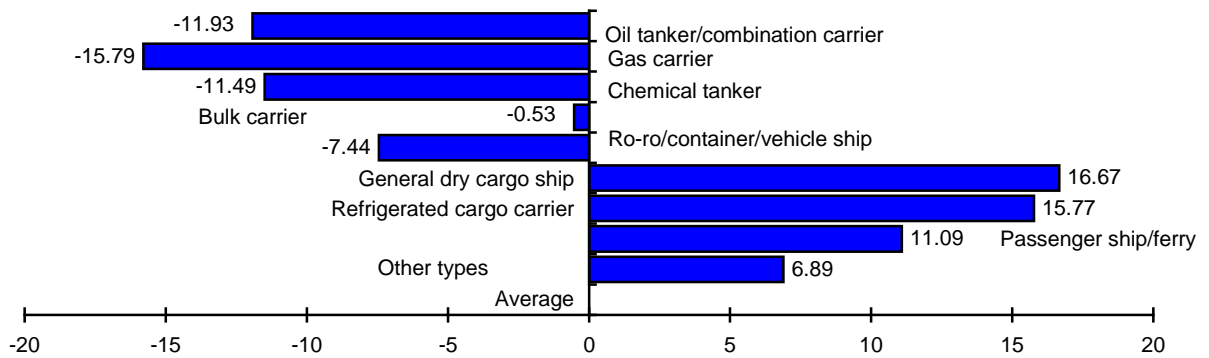
Figure 17: COMPARISON OF INSPECTIONS WITH DEFICIENCIES PER SHIP TYPE



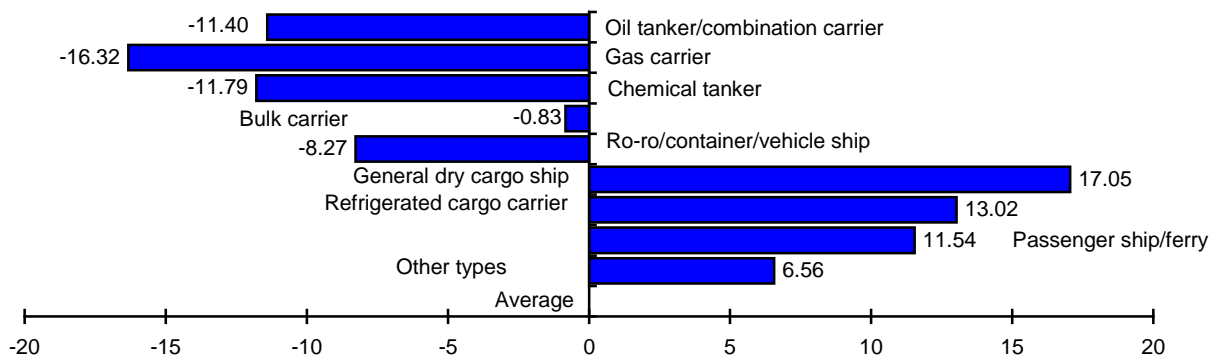
(a) Year 2016



(b) Year 2017



(c) Year 2018



(d) 3-year summary

\* % over [+] or under [-] average

Table 11: INSPECTIONS WITH DEFICIENCIES PER SHIP TYPE

Type of ship	Number of inspections				Number of inspections with deficiencies				3-year average percentage %
	2016	2017	2018	Total	2016	2017	2018	Total	
Oil tanker/combination carrier	2,249	2,350	2,133	6,732	1,094	1,097	967	3,158	46.91
Gas carrier	803	818	839	2,460	351	334	348	1,033	41.99
Chemical tanker	2,289	2,351	2,392	7,032	1,109	1,067	1,095	3,271	46.52
Bulk carrier	11,397	11,337	11,470	34,204	6,520	6,633	6,508	19,661	57.48
Ro-ro/container/vehicle ship	6,054	6,053	6,573	18,680	3,216	2,857	3,275	9,348	50.04
General dry cargo ship	6,698	6,220	5,828	18,746	5,158	4,660	4,309	14,127	75.36
Refrigerated cargo carrier	672	654	690	2,016	470	464	504	1,438	71.33
Passenger ship	328	346	414	1,088	240	237	283	760	69.85
Other types	1,188	1,186	1,250	3,624	785	764	802	2,351	64.87
<b>Total</b>	<b>31,678</b>	<b>31,315</b>	<b>31,589</b>	<b>94,582</b>	<b>18,943</b>	<b>18,113</b>	<b>18,091</b>	<b>55,147</b>	<b>58.31</b>

Table 12: INSPECTIONS AND DETENTIONS PER RECOGNIZED ORGANIZATION

Recognized organization (RO)	No. of overall inspections 2016-2018	No. of overall detentions 2016-2018	No. of RO responsible detentions 2016-2018	3-year average detention percentage%	3-year average RO responsible detention percentage%	3-year average percentage of RO responsible detentions%
American Bureau of Shipping	11,353	213	2	1.88	0.02	0.94
American Register of Shipping	104	1	0	0.96	0	0
Arados Bureau for Sea Services	3	0	0	0	0	0
Asia Classification Society	21	1	0	4.76	0	0
Biro Klasifikasi Indonesia	326	34	4	10.43	1.23	11.76
Bulgarski Koraben Registar	4	0	0	0	0	0
Bureau Veritas	11,439	360	19	3.15	0.17	5.28
C.T.M. Inspection and Classification Company, S. de R.L.	3	2	1	66.67	33.33	50.00
Caspian Register of Shipping	1	0	0	0	0	0
China Classification Society	7,580	58	0	0.77	0	0
Columbus American Register	7	1	0	14.29	0	0
Cosmos Marine Bureau	336	45	10	13.39	2.98	22.22
CR Classification Society	722	22	2	3.05	0.28	9.09
Croatian Register of Shipping	141	8	2	5.67	1.42	25.00
Cyprus Bureau of Shipping	10	0	0	0	0	0
DNV GLAS	27,584	606	9	2.20	0.03	1.49
Dromon Bureau of Shipping	232	25	1	10.78	0.43	4.00
Ferriby Marine	2	0	0	0	0	0
Foresight Ship Classification	11	0	0	0	0	0
Global Marine Bureau	108	14	0	12.96	0	0
Global Shipping Bureau	5	1	0	20.00	0	0
Hellenic Register of Shipping	4	0	0	0	0	0
Horizon International of Naval Surveying and Inspection Bureau, S.A.	2	0	0	0	0	0
Icons Marine Services PTE Ltd	3	0	0	0	0	0
Indian Register of Shipping	261	11	0	4.21	0	0
Inspeccion y Clasificacion Maritima	1	0	0	0	0	0
Intermaritime Certification Services, S.A.	2,208	124	9	5.62	0.41	7.26
International Marine Survey Association	4	0	0	0	0	0
International Maritime Register	16	2	0	12.50	0	0
International Naval Surveys Bureau	111	8	0	7.21	0	0
International Register of Shipping	412	35	4	8.50	0.97	11.43
International Ship Classification	615	51	12	8.29	1.95	23.53
Iranian Classification Society	96	8	0	8.33	0	0
Isthmus Bureau of Shipping	1,513	99	11	6.54	0.73	11.11
Isthmus Maritime Classification Society S.A.	18	0	0	0	0	0
Korea Classification Society (former Joson Classification Society)	666	63	9	9.46	1.35	14.29
Korea Ship Safety Technology Authority	76	1	0	1.32	0	0
Korean Register of Shipping	9,545	165	2	1.73	0.02	1.21
Libyan Surveyor Mr. Sif Ennasar Abdulhamid Giahmi	2	0	0	0	0	0
Lloyd's Register	14,569	318	12	2.18	0.08	3.77
M&P Surveyors, S. de R.L. de C.V.	5	0	0	0	0	0
Macosnar Corporation	142	9	0	6.34	0	0
Maritime Bureau of Africa	36	12	2	33.33	5.56	16.67

Recognized organization (RO)	No. of overall inspections 2016-2018	No. of overall detentions 2016-2018	No. of RO responsible detentions 2016-2018	3-year average detention percentage%	3-year average RO responsible detention percentage%	3-year average percentage of RO responsible detentions%
Maritime Technical Systems and Services	28	3	1	10.71	3.57	33.33
National Cargo Bureau Inc.	3	0	0	0	0	0
National Shipping Adjusters Inc	17	3	0	17.65	0	0
New United International Marine Services Ltd	198	14	2	7.07	1.01	14.29
Nippon Kaiji Kyokai	32,754	812	31	2.48	0.09	3.82
Novel Classification Society S.A.	6	1	0	16.67	0	0
Overseas Marine Certification Services	1,296	131	11	10.11	0.85	8.40
Panama Bureau of Shipping	75	7	0	9.33	0	0
Panama Marine Survey and Certification Services, Inc.	15	1	0	6.67	0	0
Panama Maritime Documentation Services	1,358	89	9	6.55	0.66	10.11
Panama Maritime Surveyors Bureau Inc	4	2	0	50.00	0	0
Panama Register Corporation	158	8	0	5.06	0	0
Panama Shipping Registrar Inc.	185	21	3	11.35	1.62	14.29
Phoenix Register of Shipping	18	4	1	22.22	5.56	25.00
Polski Rejestr Statkow	135	9	1	6.67	0.74	11.11
Register of Shipping (Albania)	2	0	0	0	0	0
Registro Brasileiro de Navios de Aeronaves	1	0	0	0	0	0
Registro Cubano de Buques	2	0	0	0	0	0
RINA Services S.p.A.	3,125	93	1	2.98	0.03	1.08
RINAVE Portuguesa	16	2	0	12.50	0	0
Russian Maritime Register of Shipping	1,382	57	0	4.12	0	0
Russian River Register	4	1	0	25.00	0	0
Ship Classification Malaysia	86	2	1	2.33	1.16	50.00
Shipping Register of Ukraine	15	3	0	20.00	0	0
SingClass International Pte Ltd	187	26	7	13.90	3.74	26.92
Sing-Lloyd	324	32	5	9.88	1.54	15.63
Union Bureau of Shipping	1,522	199	25	13.07	1.64	12.56
Union Marine Classification Society	2	0	0	0	0	0
Universal Maritime Bureau	834	90	7	10.79	0.84	7.78
Universal Shipping Bureau	24	2	0	8.33	0	0
Venezuelan Register of Shipping	9	0	0	0	0	0
Vietnam Register	2,499	89	2	3.56	0.08	2.25
Other	133	21	2	15.79	1.50	9.52

See also the note in page 32.

Table 13: PERFORMANCE OF RECOGNIZED ORGANIZATION

Recognized organization (RO)	No. of overall inspections 2016-2018	No. of RO responsible detentions 2016-2018	Low/medium Limit	Medium/high Limit	Excess factor	Performance level
SingClass International Pte Ltd	187	7	7	0	0.95	Medium
Cosmos Marine Bureau	336	10	11	2	0.85	
International Ship Classification	615	12	19	6	0.48	
Panama Shipping Registrar Inc.	185	3	7	0	0.40	
Croatian Register of Shipping	141	2	6	0	0.37	
Ship Classification Malaysia	86	1	4	0	0.36	
Sing-Lloyd	324	5	11	2	0.34	
New United International Marine Services Ltd	198	2	8	0	0.24	
Polski Rejestr Statkow	135	1	6	0	0.23	
Biro Klasifikasi Indonesia	326	4	11	2	0.23	
Union Bureau of Shipping	1,522	25	40	21	0.21	
Korea Classification Society (former Josen Classification Society)	666	9	20	7	0.16	
International Register of Shipping	412	4	13	3	0.09	
Dromon Bureau of Shipping	232	1	9	1	0.05	
Universal Maritime Bureau	834	7	24	10	-0.39	
Overseas Marine Certification Services	1,296	11	35	17	-0.58	
Indian Register of Shipping	261	0	9	1	-0.65	
Isthmus Bureau of Shipping	1,513	11	40	21	-0.78	
Panama Maritime Documentation Services	1,358	9	36	18	-0.82	
CR Classification Society	722	2	21	8	-1.11	
Intermaritime Certification Services, S.A.	2,208	9	55	33	-1.34	
Bureau Veritas	11,439	19	254	204	-1.80	
Vietnam Register	2,499	2	62	38	-1.85	
Nippon Kaiji Kyokai	32,754	31	697	613	-1.89	
Lloyd's Register	14,569	12	320	263	-1.90	
RINA Services S.p.A.	3,125	1	76	49	-1.93	
Russian Maritime Register of Shipping	1,382	0	37	19	-1.94	
DNV GL AS	27,584	9	590	513	-1.96	
Korean Register of Shipping	9,545	2	214	168	-1.97	

Recognized organization (RO)	No. of overall inspections 2016-2018	No. of RO responsible detentions 2016-2018	Low/medium Limit	Medium/high Limit	Excess factor	Performance level
American Bureau of Shipping	11,353	2	252	202	-1.97	
China Classification Society	7,580	0	172	131	-1.99	

- Note: 1) In this table, only recognized organizations (RO) that had more than 60 inspections are taken into account. The formula used is identical to the one used for the Black-Grey-White List. However, the values for P and Q are adjusted to P=2% and Q=1%.
- 2) ROs involving 60-179 inspections with zero detention are not included in this table.



**Figure 18: COMPARISON OF NUMBER OF DEFICIENCIES BY MAIN CATEGORIES**

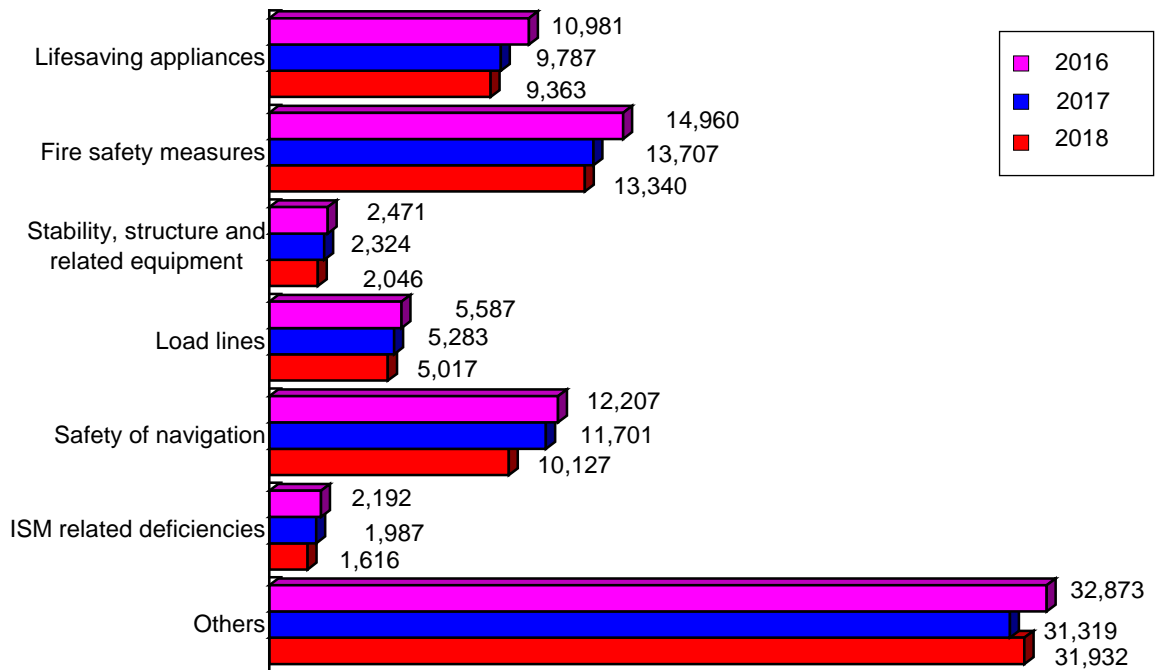
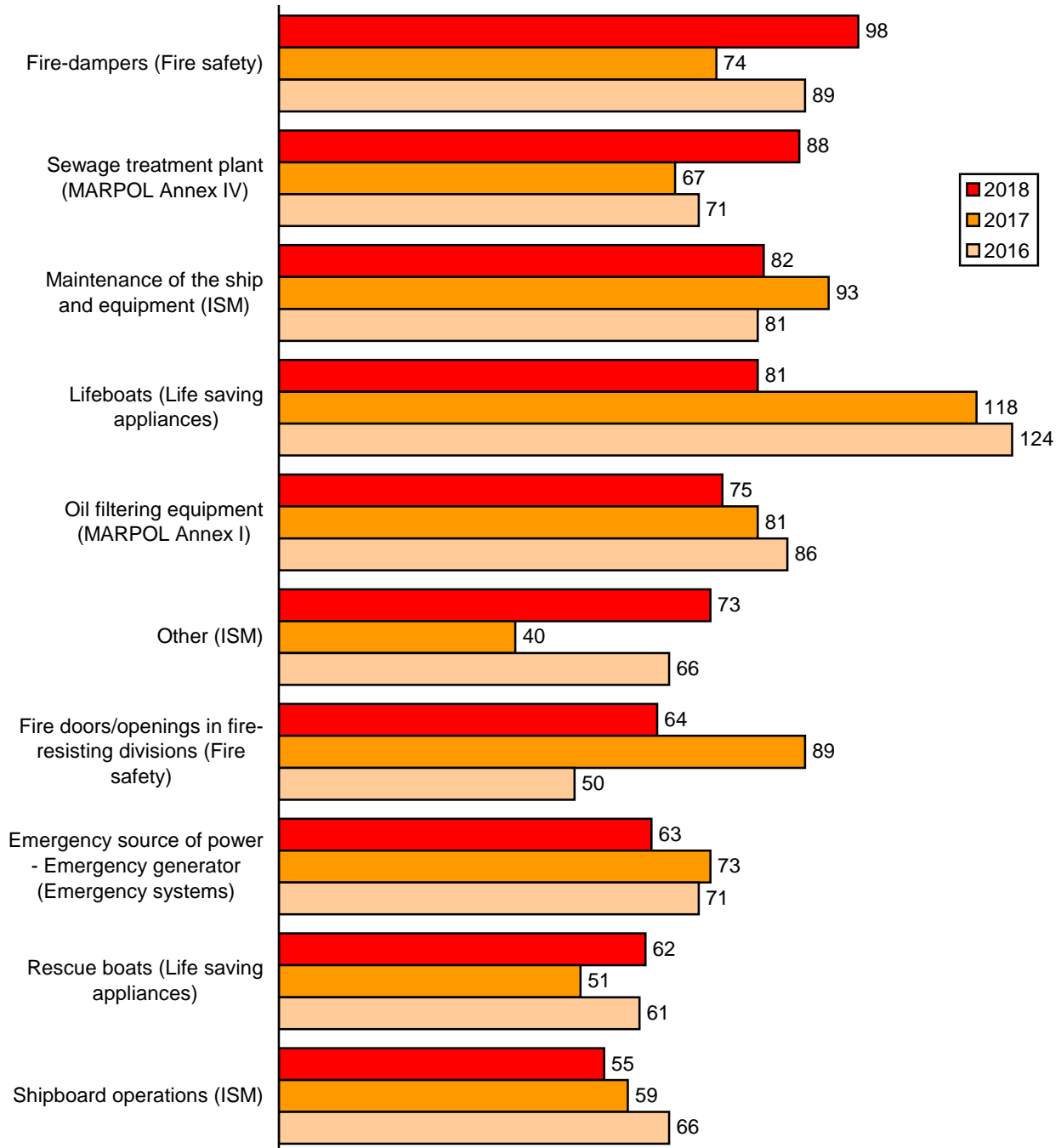


Table 14: COMPARISON OF DEFICIENCIES BY CATEGORIES

Nature of deficiency		Number of deficiencies		
		2016	2017	2018
	Crew Certificates	1,559	1,462	1,148
Certificate & Documentation	Documents	4,290	3,953	3,814
	Ship Certificates	1,874	1,937	1,782
	Structural Conditions	2,471	2,324	2,046
Water/Weathertight conditions		5,587	5,283	5,017
Emergency Systems		5,011	4,350	4,128
Radio Communications		2,062	1,798	1,570
Cargo operations including equipment		1,382	744	711
Fire safety		14,960	13,707	13,340
Alarms		573	455	520
Safety of Navigation		12,207	11,701	10,127
Life saving appliances		10,981	9,787	9,363
Dangerous goods		287	272	195
Propulsion and auxiliary machinery		3,817	3,731	3,785
Working and Living Conditions	Living Conditions	403	383	410
	Working Conditions	2,501	2,288	2,126
Labour Conditions	Minimum requirements for seafarers	38	73	48
	Conditions of employment	483	631	545
	Accommodation, recreational facilities, food and catering	1,025	1,354	1,094
	Health protection, medical care, social security	2,172	2,504	2,571
Pollution prevention	Anti Fouling	7	22	16
	Ballast Water	-	261	812
	MARPOL Annex I	1,609	1,468	1,508
	MARPOL Annex II	25	30	16
	MARPOL Annex III	12	10	13
	MARPOL Annex IV	1,199	1,131	1,256
	MARPOL Annex V	1,162	1,014	1,673
	MARPOL Annex VI	845	886	1,623
ISM		2,192	1,987	1,616
Other		537	562	568
<b>Total</b>		<b>81,271</b>	<b>76,108</b>	<b>73,441</b>
ISPS		1,624	1,345	1,516
<b>Grand total</b>		<b>82,895</b>	<b>77,453</b>	<b>74,957</b>

**Figure 19: COMPARISON OF MOST FREQUENT DETAINABLE DEFICIENCIES**



**Table 15: COMPARISON OF MOST FREQUENT DETAINABLE DEFICIENCIES**

No.	Most frequent deficiencies	Year		
		2016	2017	2018
1	Fire-dampers (Fire safety)	89	74	98
2	Sewage treatment plant (MARPOL Annex IV)	71	67	88
3	Maintenance of the ship and equipment (ISM)	81	93	82
4	Lifeboats (Life saving appliances)	124	118	81
5	Oil filtering equipment (MARPOL Annex I)	86	81	75
6	Other (ISM)	66	40	73
7	Fire doors/openings in fire-resisting divisions (Fire safety)	50	89	64
8	Emergency source of power - Emergency generator (Emergency systems)	71	73	63
9	Rescue boats (Life saving appliances)	61	51	62
10	Shipboard operations (ISM)	66	59	55

Table 16: LIST OF UNDER-PERFORMING SHIPS

IMO No.	Ship name (at the day of detention)	Flag	IMO company No.	No. of times on the list
8227446	ARROW- 1	Togo	5471243	2
8421585 <sup>1</sup>	SEA ALEXA	Tanzania	5234981	11
8421585 <sup>1</sup>	SEA ALEXA	Togo	5234981	11
8501414 <sup>2</sup>	SIDIMI	Belize	5519245	3
8501414 <sup>2</sup>	SIDIMI	Belize	5042187	3
8513390	HANSUNG	Togo	5519245	3
8651855	NEW SILK ROAD 1	Belize	5645691	1
8654637 <sup>1</sup>	MIDLAND	Sierra Leone	5634153	8
8654637 <sup>1</sup>	MIDLAND	Kiribati	5634153	8
8695863 <sup>3</sup>	BUSY BEE	Belize	4185008	6
8695863 <sup>3</sup>	BUSY BEE	Belize	5513586	6
8695863 <sup>3</sup>	YUN TONG	Togo	5928388	6
8718639	WEN XIANG	Panama	5043861	5
8740137 <sup>2</sup>	DONG KUN 7	Palau	5794964	1
8740137 <sup>2</sup>	DONG KUN 7	Palau	5952683	1
8745486	LAO CHUAN ZHANG 17	Belize	5321091	4
8817019	DONG ZHAO	Belize	5409125	5
8840054	GUANG YUAN	Togo	5639432	2
8859029 <sup>1</sup>	LIAN TONG	Sierra Leone	5511681	7
8859029 <sup>1</sup>	LIAN TONG	Togo	5511681	7
9036882	ORIENT SUNSHINE	Togo	5290972	2
9054779	LUCKY STAR 9	Palau	5773875	4
9084750 <sup>1</sup>	SEA PLAIN STAR	Togo	5244355	1
9084750 <sup>1</sup>	SEA PLAIN STAR	Belize	5244355	1
9342944	CAPTAIN KANG	Togo	5173250	1
9586332	HAN XING	Panama	5912100	3
9699957	THORCO LUNA	Philippines	1987550	7

1. The ship changed flag.
2. The ship changed company.
3. The ship changed company and flag.



## EXPLANATORY NOTE ON THE BLACK – GREY – WHITE LISTS

The Port State Control Committee adopted the same method as used by the Paris MOU for assessment of performance of flags. Compared to the calculation method of previous year, this system has the advantage of providing an excess percentage that is significant and also reviewing the number of inspections and detentions over a 3-year period at the same time, based on binomial calculus.

The performance of each flag State is calculated using a standard formula for statistical calculations in which certain values have been fixed in accordance with the agreement of the Port State Control Committee. Two limits have been included in the new system, the 'black to grey' and the 'grey to white' limit, each with its own specific formula:

$$u_{black - to - grey} = N \cdot p + 0.5 + z \cdot \sqrt{N \cdot p \cdot (1 - p)}$$

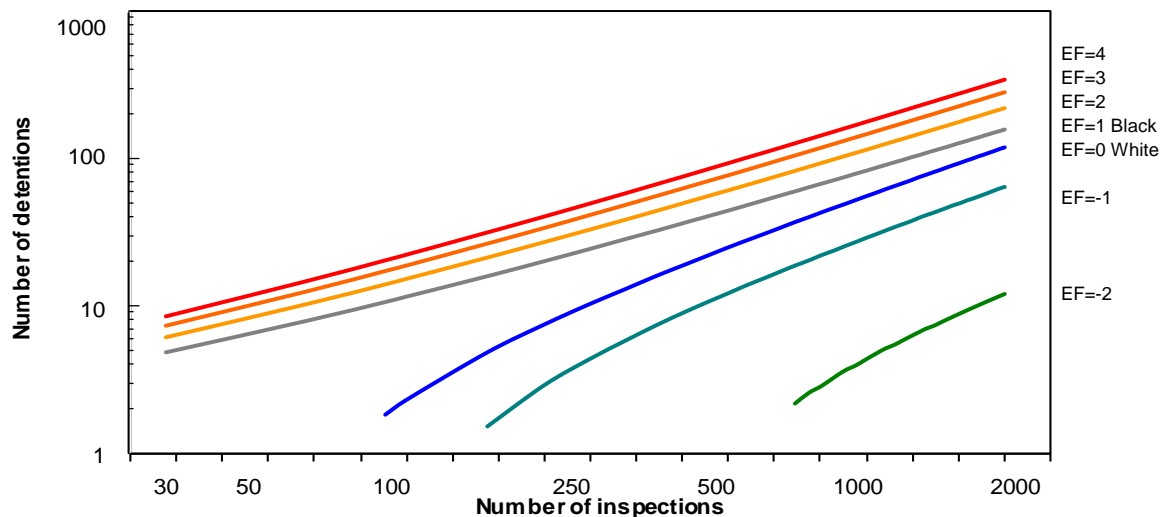
$$u_{white - to - grey} = N \cdot p - 0.5 - z \cdot \sqrt{N \cdot p \cdot (1 - p)}$$

In the formula "N" is the number of inspections, "p" is the allowable detention limit (yardstick), set to 7% by the Tokyo MOU Port State Control Committee, and "z" is the significance requested (z=1.645 for a statistically acceptable certainty level of 95%). The result "u" is the allowed number of detentions for either the black or white list. The "u" results can be found in the table as the 'black to grey' or the 'grey to white' limit. A number of detentions above this 'black to grey' limit means significantly worse than average, where a number of detentions below the

'grey to white' limit means significantly better than average. When the amount of detentions for a particular flag State is positioned between the two, the flag State will find itself on the grey list. The formula is applicable for sample sizes of 30 or more inspections over a 3-year period.

To sort results on the black or white list, simply alter the target and repeat the calculation. Flags which are still significantly above this second target are worse than the flags which are not. This process can be repeated, to create as many refinements as desired. (Of course the maximum detention rate remains 100%!) To make the flags' performance comparable, the excess factor (EF) is introduced. Each incremental or decremental step corresponds with one whole EF-point of difference. Thus the excess factor EF is an indication for the number of times the yardstick has to be altered and recalculated. Once the excess factor is determined for all flags, the flags can be ordered by EF. The excess factor can be found in the last column the black, grey or white list. The target (yardstick) has been set on 7% and the size of the increment and decrement on 3%. The Black – Grey – White lists have been calculated in accordance with the above principles.

The graphical representation of the system, below, is showing the direct relations between the number of inspected ships and the number of detentions. Both axis have a logarithmic character.





## TOKYO MOU SECRETARIAT

The Secretariat (Tokyo MOU Secretariat) of the Memorandum of Understanding on Port State Control in the Asia-Pacific Region is located in Tokyo, Japan. The Secretariat may be approached for further information or inquiries on the operation of the Memorandum.

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