

**ANNUAL REPORT**

**ON**

**PORT STATE CONTROL**

**IN THE ASIA-PACIFIC REGION**

**2010**



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## FOREWORD

We are pleased to present the **Annual Report on Port State Control in the Asia-Pacific Region 2010**.

With the dedicated efforts and contributions by the eighteen member Authorities, the Tokyo MOU enjoys continued success and achievements. The total number of PSC inspections by the Tokyo MOU exceeded 25,000 in 2010 for the first time. For long term development and achievement, Tokyo MOU adopted a strategic plan, which describes the clear vision and mission to be achieved as the ultimate goal, reiterates the commitments to PSC to be accomplished for the coming years and addresses the internal and external challenges to be taken on the way ahead.

This annual report provides an overview of the port State control developments and activities of the Tokyo MOU in 2010. Furthermore, the report also provides port State control statistics and analysis which summarizes the results of inspections carried out by member Authorities during the year.

Though the detention rate has declined during the past two years, the number of detentions is still high. Some ships are repeatedly detained but have made little or no effort for improvement. For this reason, Tokyo MOU started to publish a list of “under-performing ships”, to warn flag States and companies, that their ships will be inspected by port States at each and every port call within the region. The Tokyo MOU will continue to devise further actions and measures which can be applied to eliminate substandard ships from the region so as to promote the maritime safety, security, protection of the marine environment and to ensure living and working condition onboard.

Hua Siong Ong  
Chairman  
Port State Control Committee

Mitsutoyo Okada  
Secretary  
Tokyo MOU Secretariat

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## 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 sixteenth issue and covers port State control activities and developments in the year 2010.

The Memorandum was concluded in Tokyo on 1 December 1993. The following maritime Authorities in the Asia-Pacific region are the signatories to the Memorandum: Australia, Canada, Chile, China, Fiji, Hong Kong (China), Indonesia, Japan, Republic of Korea, Malaysia, New Zealand, Papua New Guinea, the Philippines, the Russian Federation, Singapore, Solomon Islands, Thailand, Vanuatu and Vietnam. The Memorandum came into effect on 1 April 1994.

In accordance with the provisions of the Memorandum, the Authorities which have signed and formally accepted the Memorandum or which have been accepted with unanimous consent of the Port State Control Committee would become full members. Currently, the Memorandum has 18 full members, namely: Australia, Canada, Chile, China, Fiji, Hong Kong (China), Indonesia, Japan, Republic of Korea, Malaysia, New Zealand, Papua New Guinea, the Philippines, the Russian Federation,

Singapore, Thailand, Vanuatu and Vietnam. A maritime Authority which declared the clear intention to fully adhere to the Memorandum within a three-year period would be accepted as a co-operating member with unanimous consent of the Port State Control Committee. The Republic of the Marshall Islands is the only co-operating member Authority at the moment.

The main objective of the Memorandum is to establish an effective port State control regime in the Asia-Pacific region through co-operation of its members and harmonization of their activities, to eliminate substandard shipping so as to promote maritime safety, to protect the marine environment and to safeguard 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 of the member Authorities, co-operating member Authorities and observers. The observer status has been granted the following maritime Authorities and the inter-governmental organizations by the Committee: Democratic People's Republic of Korea, Macao (China), Solomon Islands, 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 and the Black Sea MOU. The

Secretariat of the Memorandum is located in Tokyo, Japan.

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); and
- the International Convention on the Control of Harmful Anti-fouling Systems on Ships, 2001.

## REVIEW OF YEAR 2010

After two years preparation and consideration, the Tokyo MOU adopted a strategic plan and the related strategic directions, and plan of actions. The development of the strategic plan will enable the Tokyo MOU to have a clearer view of middle and long term future and to react effectively to the internal and external challenges. As a message to the industry and the public, the key elements of the strategic plan are made available on the Tokyo MOU web-site.

The concentrated inspection campaign (CIC) on Harmful Substances (Marine Pollutants) Carried in Packaged Form in accordance with MARPOL Annex III, SOLAS Chapter VII and the IMDG Code was conducted from 1 September to 30 November 2010. The campaign was intended to check whether the ship had an appropriate document of compliance (DOC) which covered the harmful substances (Marine Pollutants) being carried; whether the ship was provided with relevant documents and information corresponding to the harmful substances (marine pollutants) carried onboard; whether emergency procedures to be employed in the event of an incident involving harmful substances (marine pollutants) were in place and the crew were aware of them and, whether harmful substances (marine pollutants) carried were marked, stowed and secured appropriately.

During the campaign period, a total of 4,079 CIC inspections were carried out, of which 589 (14.4%) are ships either carrying or loading marine pollutants and of which 542 are container ships. There were a total of 305 instances of non-compliance observed, of which areas related to documentation were 178 (58.4%) and areas related to cargo marking, stowing and securing were 127 (41.6%). Of the ships carrying or loading Marine Pollutants, 10 detentions were recorded. The detention rate is 1.7% of ships that were carrying or loading marine pollutants.

It has been a concern for some years that a number of vessels which have been detained repeatedly are still operating in the region. For increasing pressure on these vessels, the Tokyo MOU decided to implement a package of actions against such ships on a trial basis, which include publication of a monthly list of under-performing ships (i.e. ships were detained three or more times during previous twelve months), inspection of

“under-performing ships” at each and every port call within the region and sending warning letters to flag States and companies of the listed ships.

### THE PORT STATE CONTROL COMMITTEE

The Port State Control Committee met in Hanoi, Viet Nam, from 14 to 17 June 2010 for its twentieth meeting. The meeting was hosted by the Viet Nam Maritime Administration. The meeting was chaired by Dr. Vitaly Klyuev, Deputy Director of the Department of State Policy for Maritime and River Transport, Ministry of Transport of the Russian Federation.

The twentieth Committee meeting was attended by representatives of the member Authorities of Australia, Canada, Chile, China, Hong Kong (China), Indonesia, Japan, Republic of Korea, Malaysia, New Zealand, Papua New Guinea, the Philippines, the Russian Federation, Singapore, Thailand and Viet Nam, and observers from DPR Korea,



The twentieth Committee meeting, Hanoi, June 2010.

Macao (China), the United States Coast Guard, the Black Sea MOU, the Indian Ocean MOU, the Paris MOU and the Viña del Mar Agreement.

The Committee considered the application for Co-operating Member status by the Marshall Islands and an evaluation report thereon by a monitoring team. The Committee unanimously agreed to accept the Marshall Islands as the first Co-operating Member of the Tokyo MOU in accordance with the relevant provisions of the Memorandum. The Committee also approved a number of recommendations made to the Marshall Islands for facilitating its establishment of effective national PSC system and improvement of its PSC activities.

The Committee received a completed draft strategic directions and plan of actions prepared by the inter-sessional group on strategy and finalized by an ad hoc group meeting. The Committee approved the strategic directions and plan of actions. Furthermore, the Committee formally adopted the strategic plan that had been agreed in principle at the last meeting. The Committee decided to publish the key elements of the strategic plan on the MOU web-site. The Committee agreed to keep the strategy issue as a standing agenda to be reviewed at each meeting.

The Committee considered a provisional analysis report of the CIC on lifeboat launching arrangements conducted in 2009. The Committee approved the arrangements for the CIC on Harmful Substances (Marine Pollutants) Carried in Packaged Form (MARPOL Annex III, SOLAS VII and the IMDG Code) scheduled for the period from 1 September to 30 November 2010. For the purpose of giving highlight on closer

co-operation and promoting further joint CICs with the Paris MOU, the Committee agreed to adjust the original plan for future CICs. In this regard, the Committee decided to deal with the same subject – structural safety and Load Lines as the Paris MOU for the CIC in 2011. The Committee decided to conduct a joint CIC on Fire Safety System (FSS) with the Paris MOU in 2012. Moreover, the Committee agreed to adopt the general principles for CIC harmonized with the Paris MOU.

The Committee approved a revised guidance for PSC on checking for compliance with long range identification and tracking (LRIT). The Committee considered and approved the integrated strategic plan for technical co-operation programmes from 2011 to 2015. The Committee authorized the Secretariat to develop and implement the technical co-operation projects in accordance with the approved plan.

During the meeting, the Committee also gave consideration and made decisions on the following:

- review of list of follow-up actions emanating from the second Joint Ministerial Conference;
- analysis of data on ship targeting factor usage;
- adoption of measures on under-performing ships;
- consideration of elements of Paris MOU new inspection regime (NIR);
- draft agreement for data exchange with GISIS; and

- awarding the winner of the best deficiency photo of the year.

As term of office of both the Chairman, Dr. Vitaly Klyuev of the Russian Federation, and the Vice-Chairman, Mr. Ong Hua Siong of Singapore, expired at the end of the meeting, the Committee unanimously elected Mr. Ong Hua Siong, Assistant Director (Ship Regulation and Development/Port State Control), Shipping Division, Maritime and Port Authority of Singapore, as the Chairman and Mr. Abdul Samad Bin Shaik Osman, Principal Assistant Director, Maritime Industry Control Division, Marine Department Peninsular Malaysia, as the Vice-Chairman for the next three meetings of the Committee. The Committee expressed its deep appreciation to Dr. Vitaly Klyuev for his able chairmanship performed during the meetings.

The twenty-first meeting of the Port State Control Committee will be held in Republic of Korea in 2011.

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

The third meeting of the Technical Working Group (TWG) was held in Hanoi, Viet Nam, from 11 to 12 June 2010, in conjunction with the twentieth meeting of the Committee. The TWG03 meeting was chaired by Mr. Christopher Lindesay, Principal System Officer, Australian Maritime Safety Authority.

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

- 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;
- reports of intersessional groups: advisory group on information exchange (AG-IE), intersessional group on batch protocol (IG-BP) and intersessional group on statistics (IG-Statistics);
- activities and operation of the APCIS system;
- amendments to the codes;
- analysis and statistics on PSC;
- information exchange with other regional PSC databases; and
- reports and evaluations of technical co-operation activities.

Mr. Christopher Lindesay of Australia and Mr. Ning Bo of China were unanimously re-elected as the Chairman and the Vice-Chairman of TWG respectively for the next three meetings.

#### **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, the Asia-Pacific Computerized Information System (APCIS), 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 system 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 web-site (<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 hyperlink with the databases of:

- SIRENAC of the Paris MOU;
- BSIS of the Black Sea MOU; and
- IOIS of the Indian Ocean MOU.

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

The twentieth basic training course for PSC officers was held in Yokohama, Japan, from 28 June 2010 to 16 July 2010. This was the sixth training course jointly organized by IMO and the Tokyo MOU. A total of 19 PSC officers participated in the training course. Twelve of them were from the Tokyo MOU Authorities of Chile, China, Fiji, Indonesia, Republic of Korea, Malaysia, Papua New Guinea, the Philippines, the Russian Federation, Thailand, Vanuatu and Viet Nam. The other seven were invited by IMO, one each from Abuja MOU,

the Viña del Mar Agreement, Black Sea MOU, Caribbean MOU, Indian Ocean MOU, Mediterranean MOU and Riyadh MOU. The course was conducted with the assistance by the Shipbuilding Research Center of Japan (SRC).



Training course for PSC officers

The basic training course aims to provide junior or newly recruited PSC officers with necessary knowledge on maritime conventions and essential port State control procedures and requirements. During the training course, trainees received a wide range of lectures and presentations relating to port State control provisions, convention requirements and regulations, PSC inspection and reporting procedures. Experts from the Ministry of Land, Infrastructure, Transport and Tourism of Japan (MLIT), SRC, Nippon Kaiji Kyokai (ClassNK) and the Secretariat delivered lectures on the relevant subjects. Apart from the classroom lectures, onboard trainings were conducted in Yokohama, Nagoya, Osaka and Kobe respectively for the



On-the-job training

trainees to gain practical experience on PSC inspections. Moreover, a technical visit to a liferaft manufacturer was also arranged.

The eighteenth seminar for PSC officers was held in Shenzhen, China, from 26 to 29 July 2010. The seminar was hosted by the China Maritime Safety Administration (MSA). Participants from Authorities of Australia, Canada, Chile, China, Fiji, Hong Kong (China), Indonesia, Japan, Democratic People's Republic of Korea, Republic of Korea, Macao (China), Malaysia, Papua New Guinea, the Philippines, the Russian Federation, Singapore, Thailand and Viet Nam attended the seminar.

At the seminar, an expert from MLIT of Japan made a comprehensive presentation about the revised MARPOL

Annex VI and the related PSC guidelines. An expert from the Australian Maritime Safety Authority (AMSA) provided a detailed introduction and explanations on the CIC on Harmful Substances (Marine Pollutants) Carried in Packaged Form (MARPOL Annex III, SOLAS VII and the IMDG Code). Another expert from China MSA delivered an informative presentation on PSC on LRIT. Participants were also informed of the recent development and activities of the Tokyo MOU, the results of the CIC on

lifeboat launching arrangements in 2009 and PSC activities in China. There were two case study sessions conducted during the seminar as well as discussion of the actual cases provided by Authorities or reviewed by the detention review panel.



On-the-job training

Four fellowship trainings were conducted in China, Japan, Republic of Korea and the Russian Federation. Two PSC officers, one from Indonesia and the other from Viet Nam, attended the fellowship training in Pusan, Republic of Korea, from 25 May to 4 June 2010. Three PSC officers participated in the fellowship training in China: two officers, one each from the Philippines and Thailand were trained in Dalian from 3 to 13 August 2010 and one officer from Malaysia was trained in Shanghai from 14 to 24 September 2010. The Russian Federation received one PSC officer from China for the fellowship training in Vladivostok from 21 September to 1 October 2010. From 22 October to 4 November 2010, 10 PSC officers



Fellowship training for PSC officers

from the Authorities of Chile, China, Indonesia, Republic of Korea, Malaysia, Papua New Guinea, the Philippines, the Russian Federation, Thailand and Viet Nam participated in the fellowship training in Japan. Participants, being divided into five groups, took part in onboard training separately in Yokohama, Nagoya, Osaka, Kobe and Hiroshima.



The eighteenth seminar for PSC officers

One expert mission was organized in Cebu, the Philippines, from 6 to 17 September 2010. Experts from Japan conducted onboard training for this mission. Two experts from AMSA were dispatched to Suva, Fiji, for training from 18 to 29 October 2010. Malaysia received one expert mission training in Kuching, conducted by two experts from Japan, during the period from 22 November to 3

December 2010.

In 2010, six PSC officer exchanges were completed, namely one PSC officer from Singapore to Japan, one from Hong Kong (China) to Australia, one from Republic of Korea to Canada, one from New Zealand to Singapore, one from Canada to Hong Kong (China) and one from Singapore to Republic of Korea. Currently, the PSC officers exchange programme is implemented among the Authorities of Australia, Canada, China, Hong Kong (China), Japan, Republic of Korea, New Zealand and Singapore.

The technical co-operation programmes are implemented successfully with full support and active participation by all Authorities. The Nippon Foundation kindly provides the continuous financial assistance to the Tokyo MOU technical co-operation activities.

In accordance with the integrated strategic plan for technical co-operation programmes from 2011 to 2015 approved by the Port State Control Committee in 2010, some changes and improvements will be made to the technical co-operation activities. The new elements in the technical co-operation programmes include the creation of general training course (GTC) for PSC based on the existing basic training and fellowship training courses and the introduction of specialized training course (STC). The expert mission, PSCO Exchange Programme and PSC Seminar will remain.

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

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 agreements (MOUs) covering the major part of the world, namely:

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

As one of the inter-governmental organizations (IGO) associated with IMO, the Tokyo MOU has attended the meetings of the Flag State Implementation (FSI) Sub-Committee since 2006. The Tokyo MOU Secretariat presented at the eighteenth session of FSI in July 2010.

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

The Tokyo MOU has established and maintained effective and close co-operation with the Paris MOU both at administrative and the 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 2010, continuous efforts and further co-ordinated actions by the two Memoranda were made on the following:

- plan for a joint CIC on FSS in 2012 and development of general principles for CICs;
- continuous submissions to IMO on annual list of flags targeted by the Paris MOU, Tokyo MOU and the United States Coast Guard and the updated list of follow-up actions emanating from the 2<sup>nd</sup> Ministerial Declaration;
- review of PSC guidance on LRIT in a harmonized manner;
- consideration of assessment of performance of companies and correlation between flag and RO; and
- joint arrangements for implementation and maintenance of the coding system.

With the co-operation and support by the Indian Ocean MOU Secretariat and the relevant Authorities, a second advanced course for PSC was organized in 2010 in the Indian Ocean MOU region under the project of technical co-operation with other regions. The course was carried out in Kochi, India, from 4 to 15 October 2010. Experts from the Tokyo MOU Authorities of Australia, Chile and Japan and an officer from the Tokyo MOU Secretariat were dispatched for conducting the training. The project for technical co-operation with other regions is implemented with the financial support by the Nippon Foundation.



PSC training course for Indian Ocean MOU

## PORT STATE CONTROL UNDER THE TOKYO MOU, 2010

### INSPECTIONS

In 2010, 25,762 inspections, involving 14,536 individual ships, were carried out on ships registered under 101 flags. Figure 2 and Table 2 show the number of inspections carried out by the member Authorities of the Tokyo MOU. Out of 25,762 inspections, there were 16,575 inspections where ships were found with deficiencies. Since the total number of individual ships operating in the region was estimated at 22,058\*, the inspection rate in the region was approximately 66%\*\* in 2010 (see Figure 1). Although both the number of inspections and the number ships inspected have increased, the inspection rate has dropped down due to the big increase of the number of individual ships in the region.



Information on inspections according to ships' flag is shown in Table 3.

Figures summarizing inspections according to

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

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



ship type are set out in Figure 3 and Table 4.

Inspection results regarding recognized organizations are shown in Table 5.

### 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 will not 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 2010, 1,411 ships registered under 64 flags were detained because of serious deficiencies found onboard. The detention rate of ships inspected was 5.48%. Comparing with the last year, detentions increased 75 by number or 6% by percentage.

Figure 4 shows the detention rate by flag that had at least 20 port State inspections and whose detention rate was above the average regional rate. Figure 5 gives the detention rate by ship type. A newly introduced Figure 7 shows the most frequent detainable deficiencies found during inspections.

Black-grey-white list (Table 7) indicates levels of performance of flags during three-year rolling period. The black-grey-white list for 2008-2010 consists of 62 flags, whose ships



were involved in 30 or more inspections during the period. It is disappointing that the black list has been expanded in 2010. By adding Bangladesh and Turkey, the number of flags in the black list increased from 13 to 15. Comparing with 2009, the grey list became smaller, consisting of 20 flags. Same as the last year, there are only 27 flags in the white list.

**DEFICIENCIES**

All conditions on board found not in compliance with the requirements of the relevant instruments by the port State control officers were recorded as deficiencies and requested to be rectified.



A total of 90,177 deficiencies were recorded in 2010. The deficiencies found are categorized and shown in Figure 6 and Table 6.

It has been noted that fire safety measures, life-saving appliances and safety of navigation are the three major categories of deficiencies which are frequently discovered on ships. In 2010, 15,998 fire safety measures related deficiencies, 15,648 safety of navigation related deficiencies and 11,077 life-saving appliances related deficiencies were recorded, representing nearly 50% of the total number of

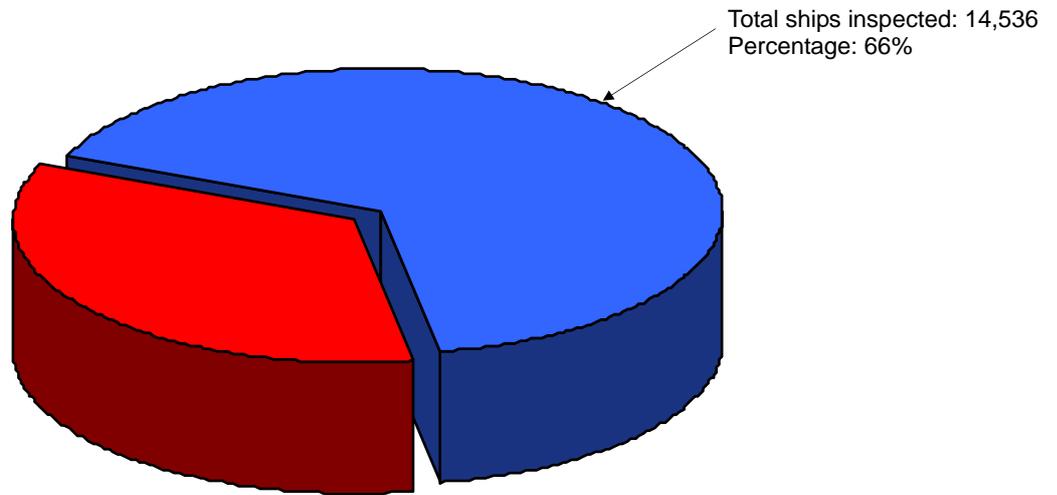
deficiencies.

It is notable that the number of deficiencies on fire safety measures and safety of navigation have been increased nearly 10% in 2010 but the number of deficiencies on lifesaving appliances reduced about 9%. Furthermore, it can be seen as the results of the CIC of the year that the number of deficiencies relating to carriage of cargo and dangerous goods increased around 20%.

**OVERVIEW OF PORT STATE CONTROL  
RESULTS 2000 – 2010**

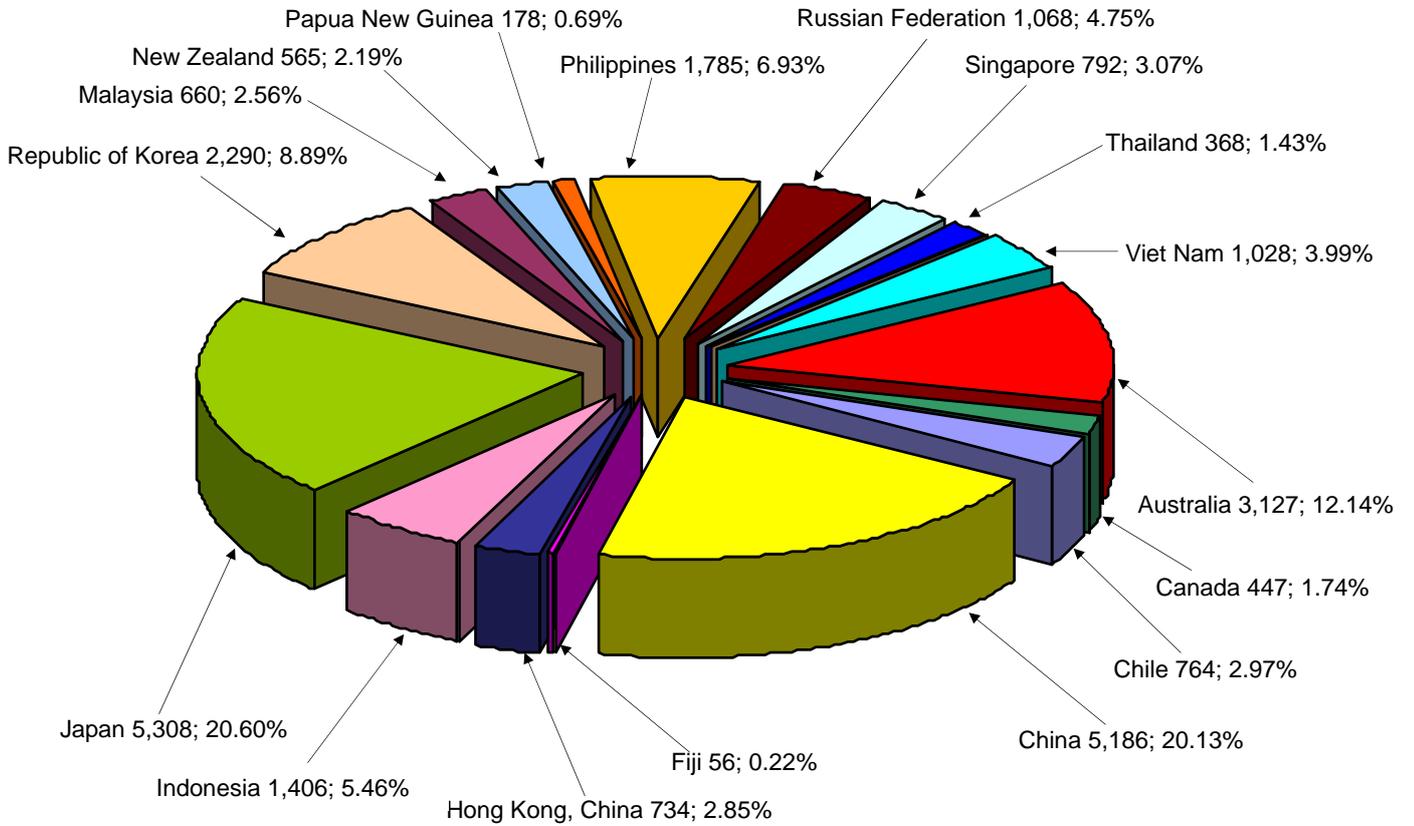
Figures 8-13 show the comparison of port State inspection results for 2000 - 2010. These figures indicate the trends in port State activities and ship performance over the past eleven years.

**Figure 1: INSPECTION PERCENTAGE**



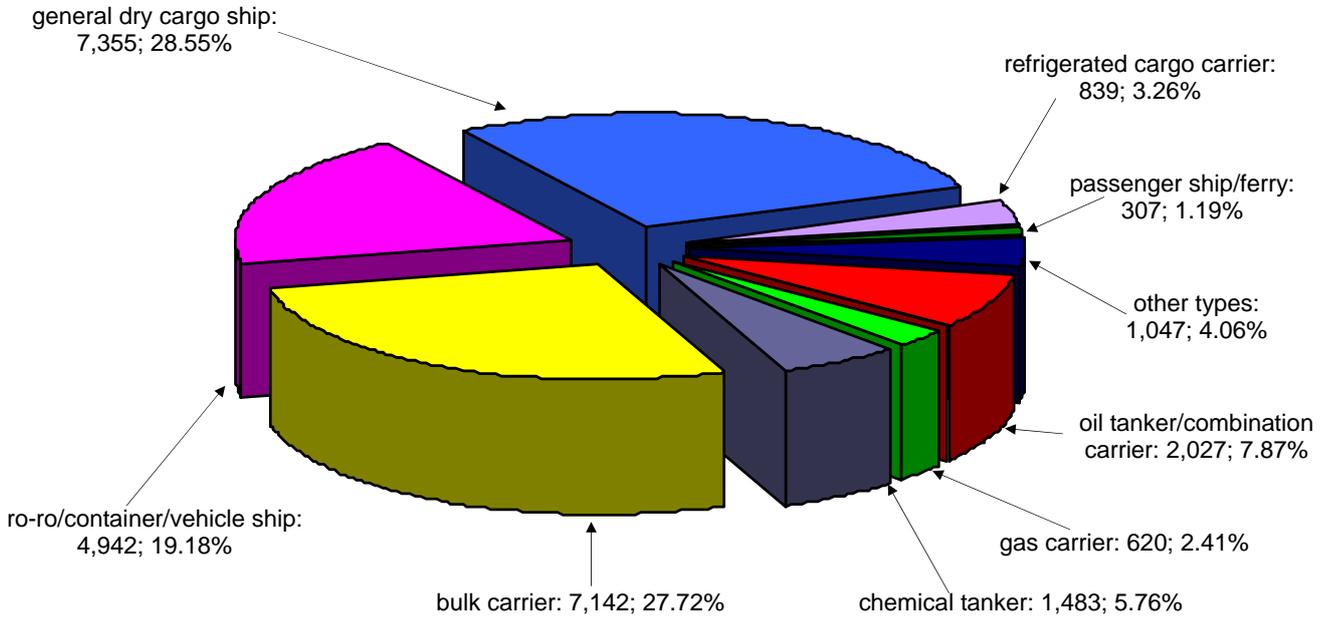
Total individual ship visited: 22,058

**Figure 2: PORT STATE INSPECTIONS - CONTRIBUTION BY AUTHORITIES**

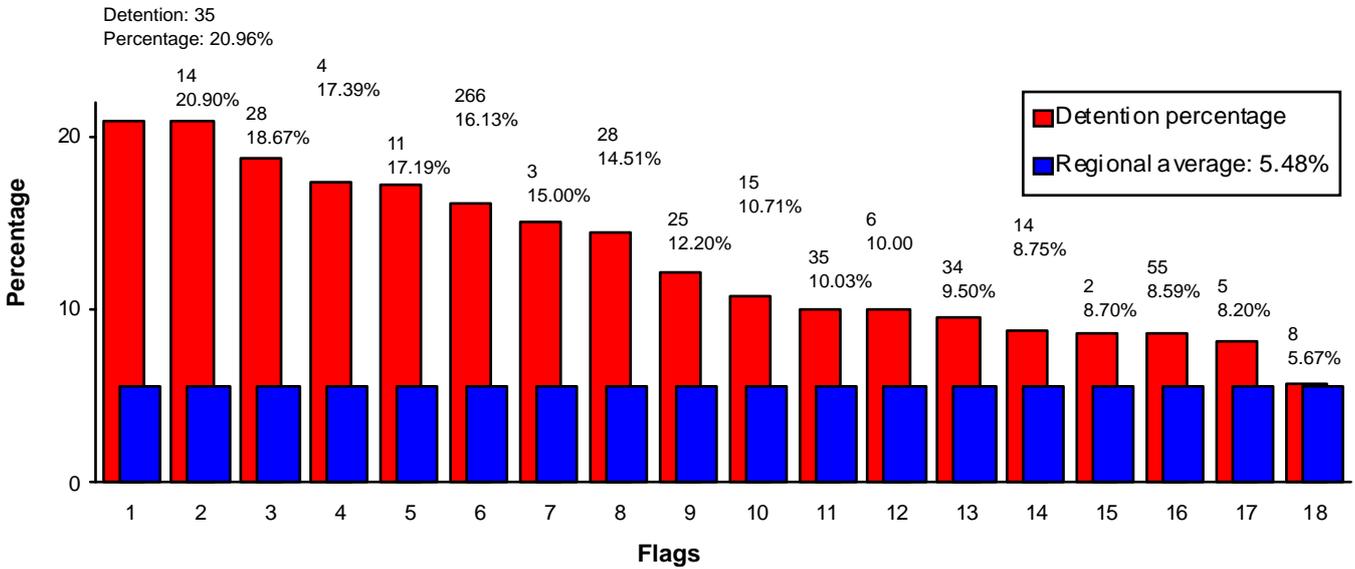


**Total inspections: 25,762**

**Figure 3: TYPE OF SHIP INSPECTED**



**Figure 4: DETENTIONS PER FLAG**

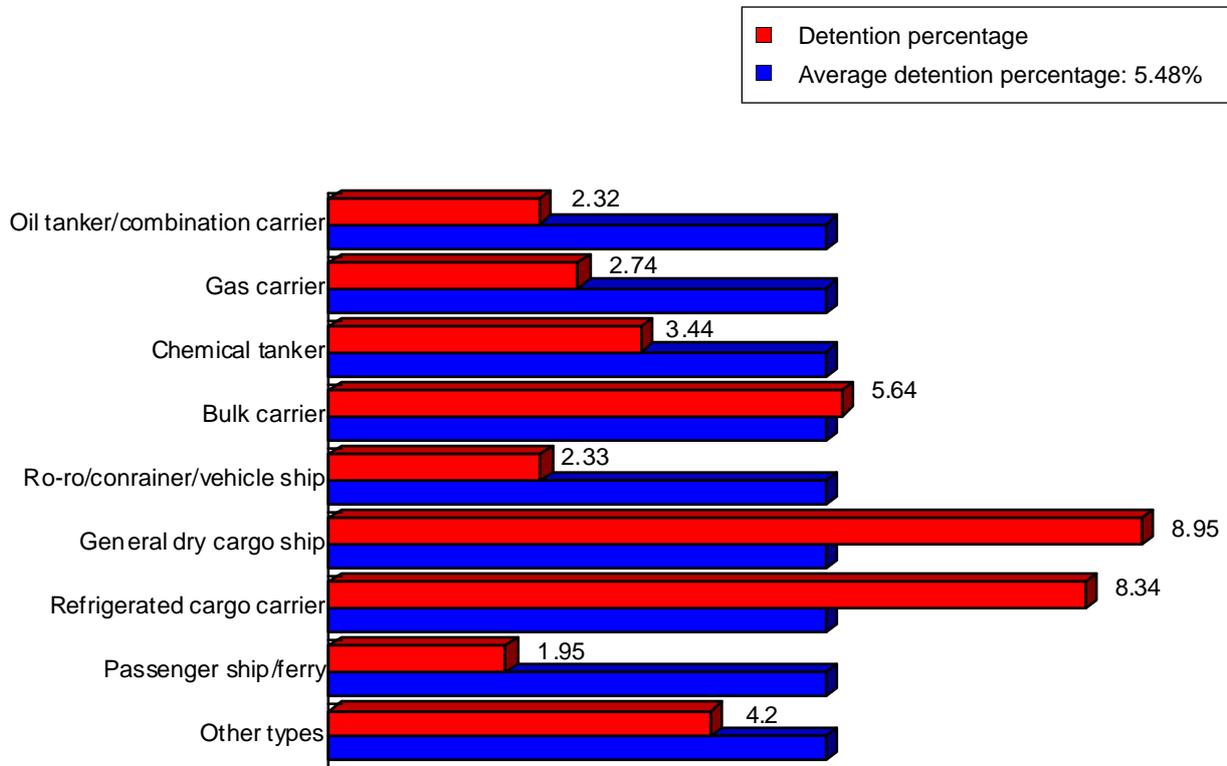


Flags:

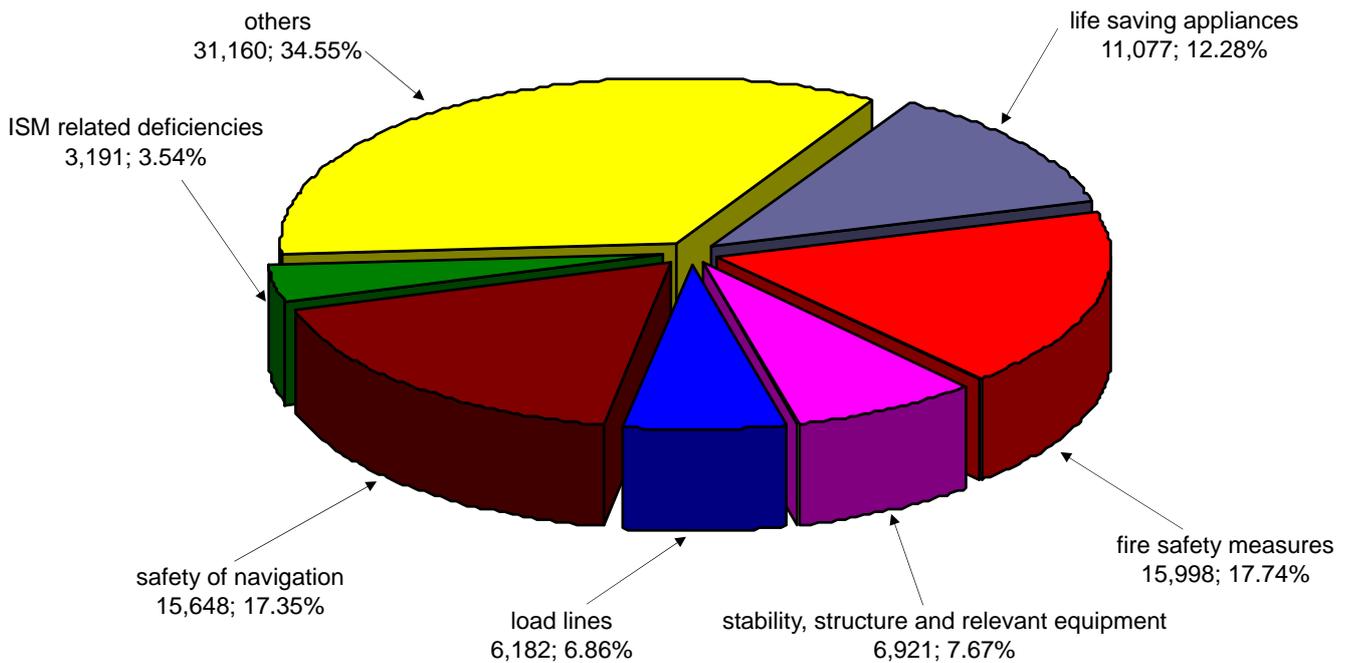
- |                      |                               |              |              |
|----------------------|-------------------------------|--------------|--------------|
| 1. Sierra Leone      | 2. Georgia                    | 3. Mongolia  | 4. Barbados  |
| 5. St. Kitts & Nevis | 6. Cambodia                   | 7. Dominica  | 8. Kiribati  |
| 9. Indonesia         | 10. Korea, Dem. People's Rep. | 11. Thailand | 12. Turkey   |
| 13. Belize           | 14. Tuvalu                    | 15. Belgium  | 16. Viet Nam |
| 17. Gibraltar (UK)   | 18. Netherlands               |              |              |

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 3.

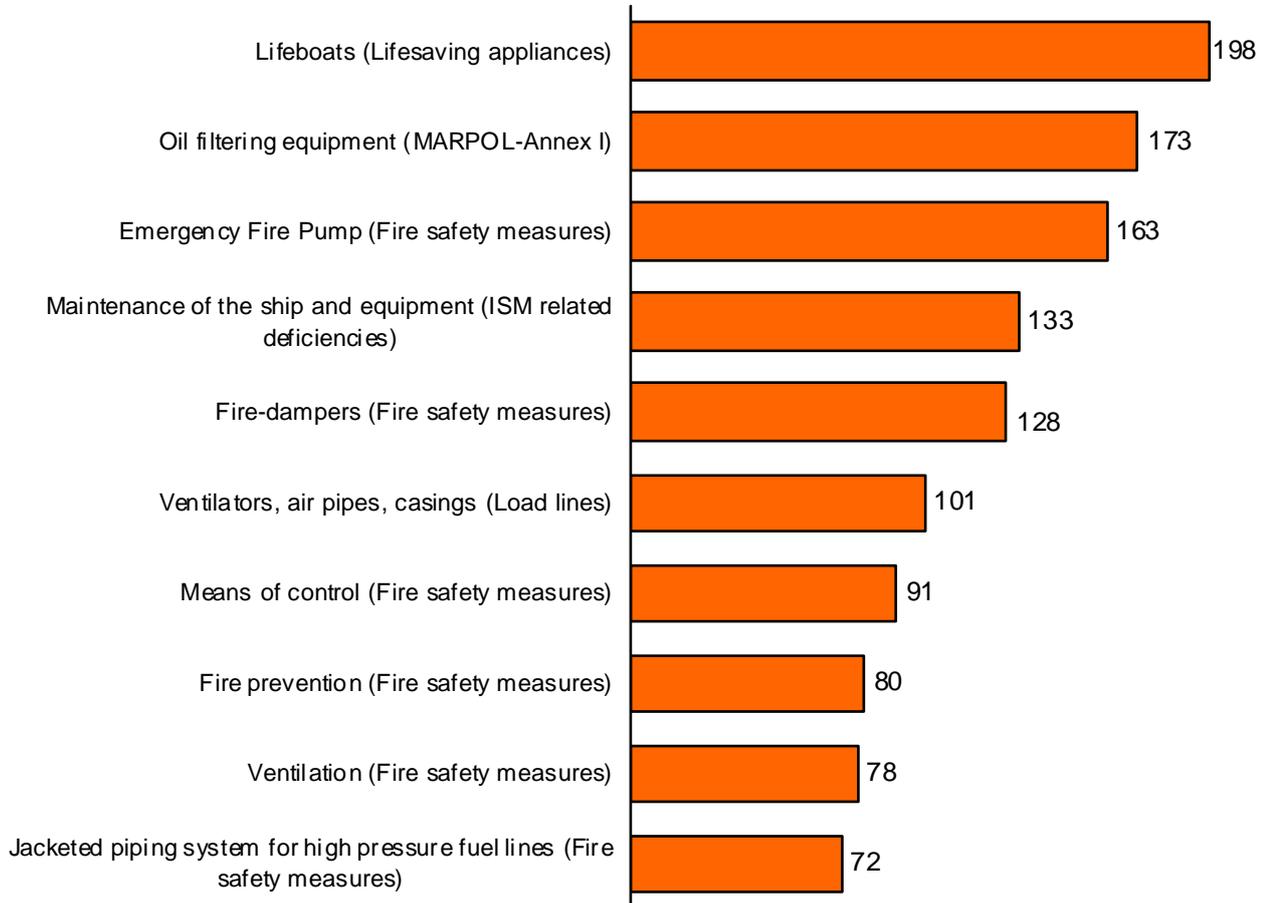
**Figure 5: DETENTION PER SHIP TYPE**



**Figure 6: DEFICIENCIES BY MAIN CATEGORIES**

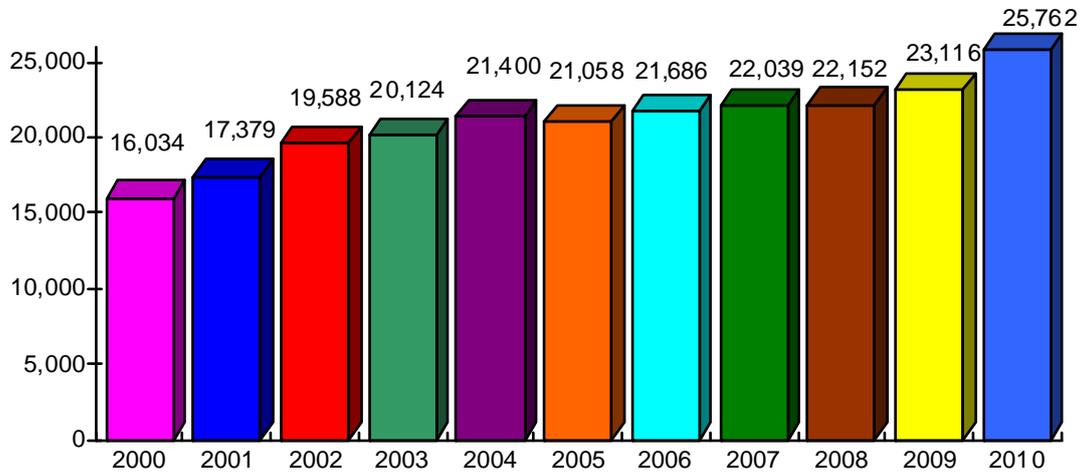


**Figure 7: MOST FREQUENT DETAINABLE DEFICIENCIES**

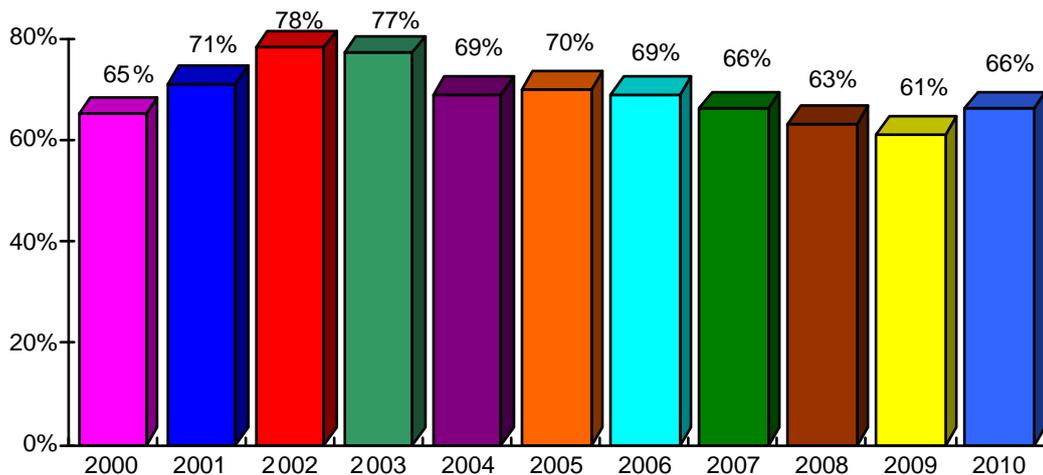


**OVERVIEW OF PORT STATE CONTROL RESULTS 1999 - 2009**

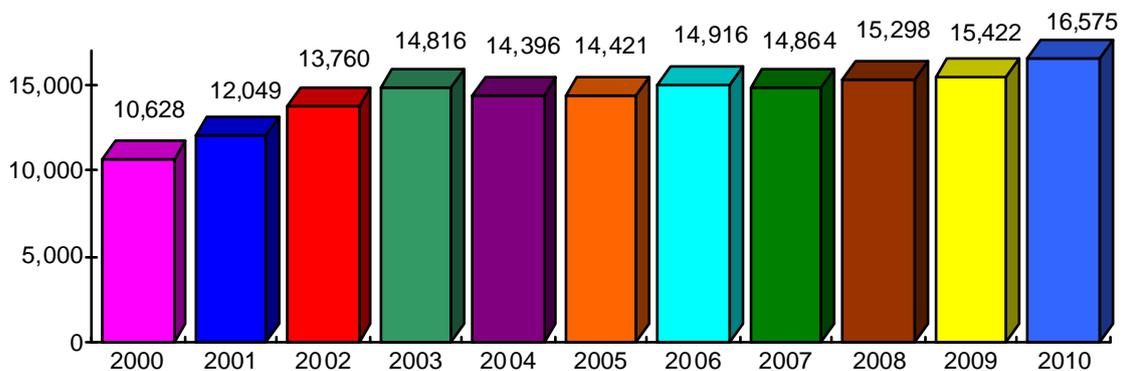
**Figure 8: NO. OF INSPECTIONS**



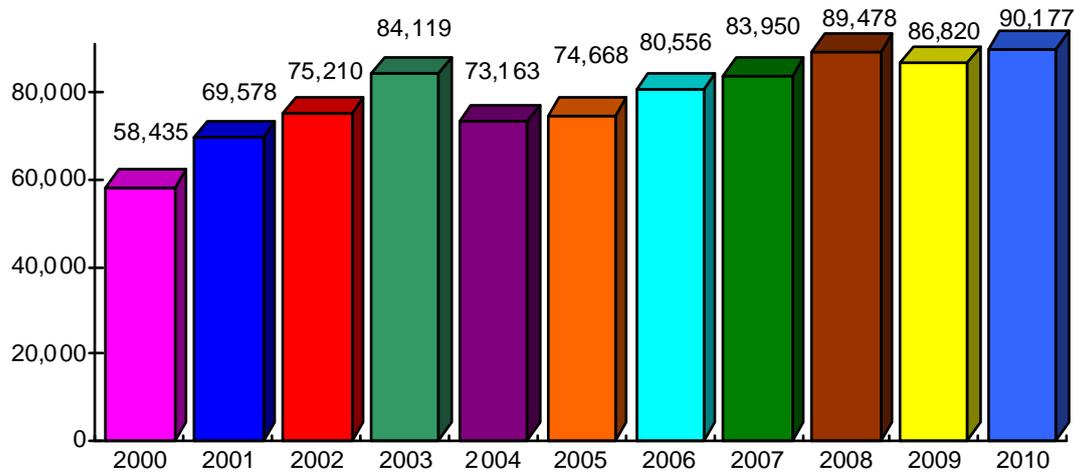
**Figure 9: INSPECTION PERCENTAGE**



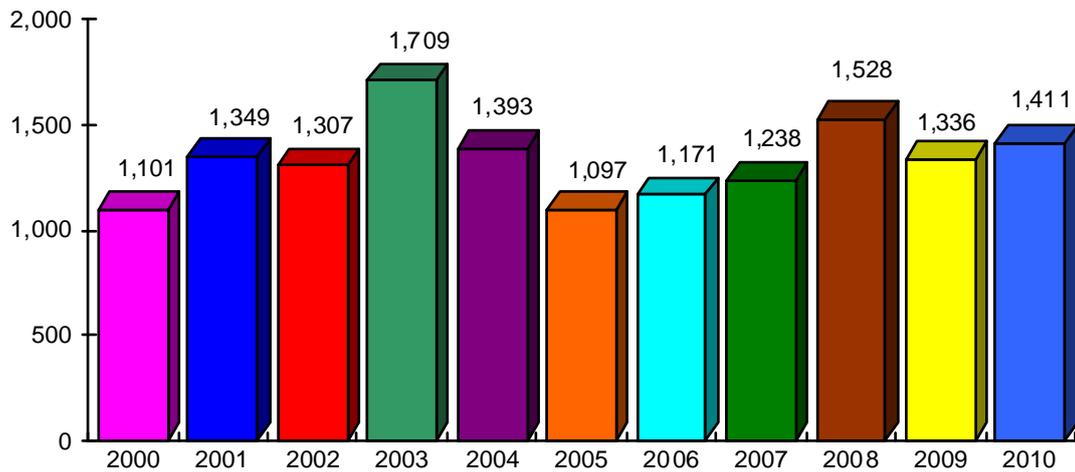
**Figure 10: NO. OF INSPECTIONS WITH DEFICIENCIES**



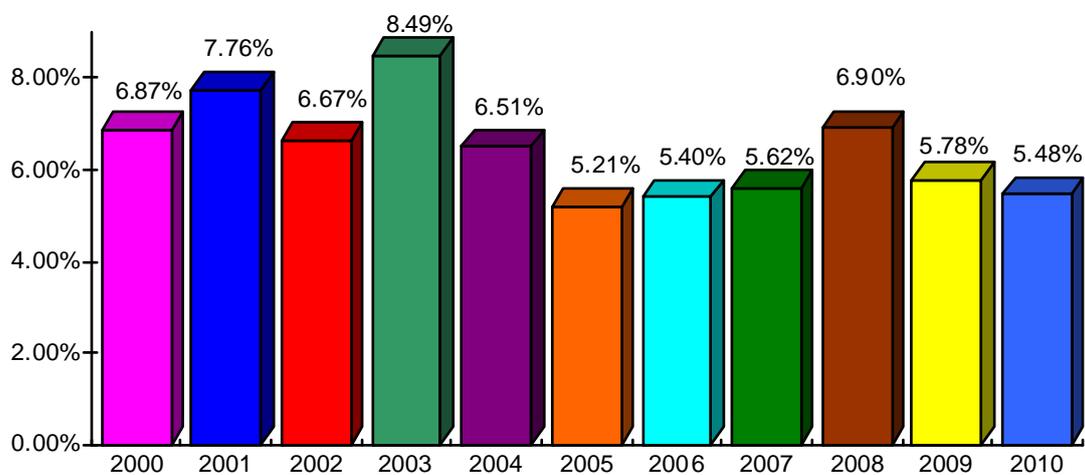
**Figure 11: NO. OF DEFICIENCIES**



**Figure 12: NO. OF DETENTIONS**



**Figure 13: 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 2010)

Authority	TONNAGE 69	LOAD LINE 66	LOAD LINE PROT 88	SOLAS 74	SOLAS PROT 78	SOLAS PROT 88	MARPOL 73/78	STCW 78	AFS 2001	COLREG 72	ILO 147**
Australia	21/05/82	29/07/68	07/02/97	17/08/83	17/08/83	07/02/97	14/10/87	07/11/83	09/01/07	29/02/80	-
Canada	18/07/94	14/01/70	08/04/10	08/05/78	-	08/04/10	16/11/92	06/11/87	08/04/10	07/03/75	25/05/93
Chile	22/11/82	10/03/75	03/03/95	28/03/80	15/07/92	29/09/95	10/10/94	09/06/87	-	02/08/77	-
China	08/04/80	05/10/73	03/02/95	07/01/80	17/12/82	03/02/95	01/07/83	08/06/81	-	07/01/80	-
Fiji	29/11/72	29/11/72	28/07/04	04/03/83	28/07/04	28/07/04	-	27/03/91	-	04/03/83	-
Hong Kong, China*	18/07/82	16/08/72	23/10/02	25/05/80	14/11/81	23/10/02	11/04/85	03/11/84	-	15/07/77	28/11/80
Indonesia	14/03/89	17/01/77	-	17/02/81	23/08/88	-	21/10/86	27/01/87	-	13/11/79	-
Japan	17/07/80	15/05/68	24/06/97	15/05/80	15/05/80	24/06/97	09/06/83	27/05/82	08/07/03	21/06/77	31/05/83
Republic of Korea	18/01/80	10/07/69	14/11/94	31/12/80	02/12/82	14/11/94	23/07/84	04/04/85	24/07/08	29/07/77	-
Malaysia	24/04/84	12/01/71	-	19/10/83	19/10/83	-	31/01/97	31/01/92	27/09/10	23/12/80	-
New Zealand	06/01/78	05/02/70	03/06/01	23/02/90	23/02/90	03/06/01	25/09/98	30/07/86	-	26/11/76	-
Papua New Guinea	25/10/93	18/05/76	-	12/11/80	-	-	25/10/93	28/10/91	-	18/05/76	-
Philippines	06/09/78	04/03/69	-	15/12/81	-	-	15/06/01	22/02/84	-	-	-
Russian Federation	20/11/69	04/07/66	18/08/00	09/01/80	12/05/81	18/08/00	03/11/83	09/10/79	-	09/11/73	07/05/91
Singapore	06/06/85	21/09/71	18/08/99	16/03/81	01/06/84	10/08/99	01/11/90	01/05/88	31/12/09	29/04/77	-
Thailand	11/06/96	30/12/92	-	18/12/84	-	-	02/11/07	19/06/97	-	06/08/79	-
Vanuatu	13/01/89	28/07/82	26/11/90	28/07/82	28/07/82	14/09/92	13/04/89	22/04/91	20/08/08	28/07/82	-
Viet Nam	18/12/90	18/12/90	27/05/02	18/12/90	12/10/92	27/05/02	29/05/91	18/12/90	-	18/12/90	-
Marshall Islands	25/04/89	26/04/88	29/11/94	26/04/88	26/04/88	16/10/95	26/04/88	25/04/89	09/05/08	26/04/88	-
DPR Korea	18/10/89	18/10/89	08/08/01	01/05/85	01/05/85	08/08/01	01/05/85	01/05/85	-	01/05/85	-
Macao, China	18/07/05	18/07/05	-	20/12/99	20/12/99	24/06/05	20/12/99	18/07/05	-	20/12/99	-
Solomon Islands	30/06/04	30/06/04	-	30/06/04	-	-	30/06/04	01/06/94	-	12/03/82	-
Entry into force date	18/07/82	21/07/68	03/02/00	25/05/80	01/05/81	03/02/00	02/10/83	28/04/84	17/09/08	15/07/77	28/11/81

\* 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.

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

(Date of deposit of instruments)

(As at 31 December 2010)

<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	-	-	-	-	-
Hong Kong, China*	11/04/85	07/03/95	02/11/06	27/03/96	20/03/08
Indonesia	21/10/86	-	-	-	-
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	-	-	31/01/97	-
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	-
Philippines	15/06/01	15/06/01	15/06/01	15/06/01	-
Russian Federation	03/11/83	14/08/87	14/08/87	14/08/87	-
Singapore	01/11/90	02/03/94	01/05/05	27/05/99	10/08/00
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	-	-	-	-
Marshall Islands	26/04/88	26/04/88	26/04/88	26/04/88	07/03/02
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
Solomon Islands	30/06/04	30/06/04	30/06/04	30/06/04	-
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 2010

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>	2,735	4,288	3,127	1,161	1,604	7,482	222	4,455	61.39	7.10
Canada <sup>4)</sup>	436	447	447	0	235	780	5	1,584	27.53	1.12
Chile	696	1,036	764	273	388	1,182	14	1,779	39.12	1.83
China	4,098	6,525	5,186	1,340	4,469	33,537	532	12,420	33.00	10.26
Fiji	48	70	56	14	0	0	0	156	30.77	0
Hong Kong, China	731	745	734	11	481	1,641	21	4,803	15.22	2.86
Indonesia	1,293	1,593	1,406	187	299	1,731	38	5,683	22.75	2.70
Japan	3,721	6,390	5,308	1,082	3,578	16,890	239	7,504	49.59	4.50
Republic of Korea	1,832	3,062	2,290	772	1,838	10,045	205	8,858	20.68	8.95
Malaysia	611	794	660	134	353	1,471	12	5,296	11.54	1.82
New Zealand	490	794	565	229	289	946	13	756	64.81	2.30
Papua New Guinea	163	244	178	66	80	578	3	336	48.51	1.69
Philippines	1,451	2,142	1,785	357	597	2,559	4	1,679	86.42	0.22
Russian Federation <sup>4)</sup>	766	1,994	1,068	926	809	4,779	30	1,151	66.55	2.81
Singapore	608	1,268	792	476	635	2,518	19	11,791	5.16	2.40
Thailand	316	410	368	42	186	353	2	2,763	11.44	0.54
Vanuatu	0	0	0	0	0	0	0	23	0	0
Viet Nam	818	1,410	1,028	382	734	3,685	52	1,852	44.17	5.06
<b>Total</b>	<b>14,536</b>	<b>33,212</b>	<b>25,762</b>	<b>7,452</b>	<b>16,575</b>	<b>90,177</b>	<b>1,411</b>	<b>Regional 22,058</b>	<b>Regional 66%</b>	<b>Regional 5.48%</b>

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

2) LLI data for 2010.

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	3,127	6	6	0	0
Canada	447	3	3	0	0
Chile	764	12	13	0	0
China	5,186	854	1,171	22	0.42
Fiji	56	0	0	0	0
Hong Kong, China	734	21	22	2	0.27
Indonesia	1,406	31	34	1	0.07
Japan	5,308	341	412	3	0.06
Republic of Korea	2,290	391	506	11	0.48
Malaysia	660	62	78	0	0
New Zealand	565	8	9	0	0
Papua New Guinea	178	5	5	0	0
Philippines	1,785	22	22	0	0
Russian Federation	1,068	77	87	0	0
Singapore	792	301	314	0	0
Thailand	368	6	6	0	0
Vanuatu	0	0	0	0	0
Vietnam	1,028	56	62	2	0.19
<b>Total</b>	<b>25,762</b>	<b>2,196</b>	<b>2,750</b>	<b>41</b>	<b>Regional 0.16%</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 FLAG

Flag	No. of inspections	No. of inspections with deficiencies	No. of deficiencies	No. of detentions	Detention percentage %
Algeria	5	3	51	0	0
Antigua and Barbuda	541	329	1,375	24	4.44
Argentina	6	6	18	0	0
Australia	9	3	6	0	0
Bahamas	610	305	1,227	15	2.46
Bahrain	2	2	10	0	0
Bangladesh	14	11	89	4	28.57
Barbados	23	16	104	4	17.39
Belgium	23	11	62	2	8.70
Belize	358	320	1,968	34	9.50
Bermuda (UK)	68	27	75	0	0
Bolivia	3	2	52	1	33.33
Brazil	4	4	36	1	25.00
Brunei Darussalam	7	5	8	0	0
Bulgaria	4	4	37	1	25.00
Cambodia	1,649	1,598	12,426	266	16.13
Cayman Islands (UK)	84	27	68	2	2.38
China	676	417	1,946	8	1.18
Comoros	9	9	94	3	33.33
Cook Islands	12	5	23	0	0
Croatia	31	15	62	1	3.23
Curacao	15	7	36	1	6.67
Cyprus	500	281	1,307	27	5.40
Denmark	132	61	228	1	0.76
Dominica	20	17	103	3	15.00
Ecuador	2	1	5	0	0
Egypt	11	8	56	1	9.09
Ethiopia	6	6	38	0	0
France	54	23	68	1	1.85
Georgia	67	67	621	14	20.90
Germany	279	150	648	5	1.79
Gibraltar (UK)	61	30	106	5	8.20
Greece	291	141	569	10	3.44
Honduras	1	1	2	0	0
Hong Kong, China	1,765	939	4,241	29	1.64
India	101	44	219	2	1.98
Indonesia	205	188	1,285	25	12.20
Iran	5	4	16	0	0
Isle of Man (UK)	107	41	143	2	1.87

Flag	No. of inspections	No. of inspections with deficiencies	No. of deficiencies	No. of detentions	Detention percentage %
Israel	5	5	39	0	0
Italy	137	69	301	7	5.11
Jamaica	2	2	15	1	50.00
Japan	107	60	241	2	1.87
Jordan	1	1	4	0	0
Kiribati	193	156	1,235	28	14.51
Korea, Democratic People's Republic	140	136	1,126	15	10.71
Korea, Republic of	1,179	874	4,373	23	1.95
Kuwait	11	6	18	0	0
Latvia	1	0	0	0	0
Liberia	1,758	930	3,937	66	3.75
Libyan Arab Jamahiriya	7	4	9	0	0
Lithuania	5	3	19	1	20.00
Luxemburg	9	4	17	1	11.11
Malaysia	239	147	819	9	3.77
Maldives	10	8	64	0	0
Malta	554	322	1,489	29	5.23
Marshall Islands	923	467	2,060	32	3.47
Moldova	2	2	9	0	0
Mongolia	150	141	1,151	28	18.67
Myanmar	19	19	140	1	5.26
Netherlands	141	84	321	8	5.67
New Zealand	2	2	14	0	0
Nigeria	1	0	0	0	0
Norway	228	123	494	5	2.19
Pakistan	6	5	30	0	0
Panama	7,952	5,077	27,318	418	5.26
Papua New Guinea	12	12	109	4	33.33
Peru	1	1	4	0	0
Philippines	213	145	646	8	3.76
Poland	1	1	11	0	0
Portugal	7	4	22	1	14.29
Qatar	10	5	13	0	0
Russian Federation	320	291	1,395	12	3.75
Saint Vincent and the Grenadines	265	241	1,413	11	4.15
Samoa	7	5	41	0	0
Saudi Arabia	12	9	33	1	8.33
Seychelles	2	2	7	0	0
Sierra Leone	167	165	1,404	35	20.96
Singapore	1,380	621	2,714	38	2.75

Flag	No. of inspections	No. of inspections with deficiencies	No. of deficiencies	No. of detentions	Detention percentage %
Slovakia	3	3	28	1	33.33
Solomon Islands	3	2	17	0	0
Spain	1	0	0	0	0
Sri Lanka	7	4	30	0	0
St. Kitts & Nevis	64	61	464	11	17.19
Sweden	30	13	38	0	0
Switzerland	22	12	35	0	0
Syrian Arab Republic	1	0	0	0	0
Taiwan, China	68	36	181	2	2.94
Tanzania	3	3	18	2	66.67
Thailand	349	261	1,672	35	10.03
Togo	8	8	44	0	0
Tonga	14	9	53	1	7.14
Tunisia	2	0	0	0	0
Turkey	60	38	234	6	10.00
Tuvalu	160	138	791	14	8.75
Ukraine	1	0	0	0	0
United Arab Emirates (UAE)	6	3	12	0	0
United Kingdom (UK)	236	109	353	4	1.69
United States of America	38	29	108	0	0
Vanuatu	104	64	305	3	2.88
Viet Nam	640	503	3,296	55	8.59
Ship's registration withdrawn	3	2	15	1	33.33
<b>Total</b>	<b>25,762</b>	<b>16,575</b>	<b>90,177</b>	<b>1,411</b>	<b>Regional 5.48</b>

Table 4: 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	85	39	147	0	0
Combination carrier	107	44	319	5	4.67
Oil tanker	1,835	769	3,510	42	2.29
Gas carrier	620	271	1,136	17	2.74
Chemical tanker	1,483	796	3,642	51	3.44
Bulk carrier	7,142	4,326	23,089	403	5.64
Vehicle carrier	746	322	1,008	16	2.14
Container ship	3,963	2,211	8,852	92	2.32
Ro-Ro cargo ship	233	155	728	7	3.00
General cargo/multi-purpose ship	7,355	6,071	39,316	658	8.95
Refrigerated cargo carrier	839	678	3,820	70	8.34
Woodchip carrier	220	113	412	7	3.18
Livestock carrier	53	35	188	2	3.77
Ro-Ro passenger ship	83	75	625	4	4.82
Passenger ship	224	150	508	2	0.89
Factory ship	1	1	4	0	0.00
Heavy load carrier	61	41	205	3	4.92
Offshore service vessel	149	95	577	9	6.04
MODU & FPSO	11	7	72	0	0
High speed passenger craft	57	54	173	0	0
Special purpose ship	40	20	86	0	0
Tugboat	212	131	744	12	5.66
Others	243	171	1,016	11	4.53
<b>Total</b>	<b>25,762</b>	<b>16,575</b>	<b>90,177</b>	<b>1,411</b>	<b>5.48</b>

Table 5: 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%
Alfa Register of Shipping	13	0	0	0	0	0
American Bureau of Shipping	2,315	71	5	3.07	0.22	7.04
Belize Maritime Bureau Inc.	5	0	0	0	0	0
Belize Register Corporation	1	0	0	0	0	0
Biro Klasifikasi Indonesia	98	15	1	15.31	1.02	6.67
Bulgarski Koraben Registar	2	0	0	0	0	0
Bureau Securitas	6	0	0	0	0	0
Bureau Veritas	2,479	124	9	5.00	0.36	7.26
China Classification Society	2,150	25	2	1.16	0.09	8.00
China Corporation Register of Shipping	315	32	0	10.16	0	0
Cosmos Marine Bureau	25	2	0	8.00	0	0
Croatian Register of Shipping	43	2	1	4.65	2.33	50.00
Cyprus Bureau of Shipping	4	0	0	0	0	0
Det Norske Veritas	2,769	84	2	3.07	0.07	2.38
Fidenavis SA	6	0	0	0	0	0
Germanischer Lloyd	2,678	110	6	4.11	0.22	5.45
Global Marine Bureau	446	55	6	12.33	1.35	10.91
Hellenic Register of Shipping	9	3	0	33.33	0	0
Honduras Bureau of Shipping	1	0	0	0	0	0
Honduras International Surveying and Inspection Bureau	1	0	0	0	0	0
INCLAMAR (Inspección y Clasificación Marítima, S. de. R.L.)	134	17	1	12.69	0.75	5.88
Indian Register of Shipping	103	1	0	0.97	0	0
Intermaritime Certification Services, S.A.	350	34	3	9.71	0.86	8.82
International Naval Surveys Bureau	54	3	0	5.56	0	0
International Register of Shipping	447	66	6	14.77	1.34	9.09
International Ship Classification	370	49	7	13.24	1.89	14.29
Isthmus Bureau of Shipping	473	58	7	12.26	1.48	12.07
Korea Classification Society (former Joson Classification Society)	138	14	0	10.14	0	0
Korea Ship Safety Technology Authority	50	1	0	2.00	0	0
Korean Register of Shipping	2,226	57	2	2.56	0.09	3.51
Lloyd's Register	3,056	100	7	3.27	0.23	7.00
Marconi International Marine Company Ltd.	2	0	0	0	0	0
Maritime Technical Systems and Services	66	7	1	10.61	1.52	14.29

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%
National Cargo Bureau Inc.	3	0	0	0	0	0
National Shipping Adjusters Inc	26	3	0	11.54	0	0
Nippon Kaiji Kyokai	7,739	290	21	3.75	0.27	7.24
NV Unitas	1	0	0	0	0	0
Overseas Marine Certification Services	262	44	4	16.79	1.53	9.09
Panama Bureau of Shipping	57	2	0	3.51	0	0
Panama Maritime Documentation Services	268	37	3	13.81	1.12	8.11
Panama Maritime Surveyors Bureau Inc	127	21	0	16.54	0	0
Panama Register Corporation	63	5	0	7.94	0	0
Panama Shipping Certificate Inc.	5	1	0	20.00	0	0
Panama Shipping Registrar Inc.	198	33	1	16.67	0.51	3.03
Polski Rejestr Statkow	21	2	0	9.52	0	0
Registro Internacional Naval S.A.	9	1	1	11.11	11.11	100.00
Registro Italiano Navale	514	31	0	6.03	0	0
RINAVE Portuguesa	2	0	0	0	0	0
Russian Maritime Register of Shipping	567	41	3	7.23	0.53	7.32
Russian River Register	1	0	0	0	0	0
Shipping Register of Ukraine	3	1	0	33.33	0	0
Societe Generale de Surveillance	1	0	0	0	0	0
Turkish Lloyd	11	2	0	18.18	0	0
Union Bureau of Shipping	1,099	187	35	17.02	3.18	18.72
Universal Maritime Bureau	362	52	7	14.36	1.93	13.46
Universal Shipping Bureau	83	6	0	7.23	0	0
Viet Nam Register of Shipping	692	66	9	9.54	1.30	13.64
Other	390	61	13	15.64	3.33	21.31

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 6: DEFICIENCIES BY CATEGORIES

Nature of deficiencies	No. of deficiencies
Ship's certificates and documents	2,479
Stability, structure and related equipment	6,921
Propulsion and auxiliary machinery	6,238
Alarm signals	664
Fire safety measures	15,998
Oil, chemical tankers and gas carriers	236
Lifesaving appliances	11,077
Radiocommunications	3,015
Safety of navigation	15,648
Carriage of cargo and dangerous goods	589
ISM related deficiencies	3,191
SOLAS related operational deficiencies	4,073
Additional measures to enhance maritime safety	888
Bulk carriers-additional safety measures	486
Load lines	6,182
MARPOL-Annex I	4,403
MARPOL-Annex II	47
MARPOL-Annex III	92
MARPOL-Annex IV	879
MARPOL-Annex V	1,336
MARPOL-Annex VI	508
MARPOL related operational deficiencies	477
AFS Convention	12
Certification and watchkeeping for seafarers	1,595
Crew and accommodation (ILO 147)	326
Food and catering (ILO 147)	172
Working spaces (ILO 147)	899
Accident prevention (ILO 147)	800
Mooring arrangements (ILO 147)	793
Other deficiencies	153
<b>Total</b>	<b>90,177</b>
Maritime security related deficiencies	2,750
<b>Grand total</b>	<b>92,927</b>

## SUMMARY OF PORT STATE INSPECTION DATA 2008 – 2010

Table 7: BLACK – GREY – WHITE LISTS \*

Flag	Inspections 2008-2010	Detentions 2008-2010	Black to Grey Limit	Grey to White Limit	Excess Factor
<b>BLACK LIST</b>					
Sierra Leone	355	84	33		5.34
Georgia	274	66	27		5.31
Cambodia	5,109	877	388		4.10
Papua New Guinea	45	11	6		3.56
St. Kitts & Nevis	181	34	19		3.41
Korea, Democratic People's Republic	343	59	32		3.33
Mongolia	520	84	46		3.20
Indonesia	592	86	52		2.74
Kiribati	474	67	43		2.54
Bangladesh	32	6	5		1.64
Tuvalu	526	58	47		1.63
Thailand	959	97	81		1.53
Belize	1,154	111	96		1.42
Viet Nam	1,610	150	130		1.39
Turkey	156	18	17		1.24
<b>GREY LIST</b>					
Maldives	47	6	7	0	0.90
Curacao	63	7	8	1	0.84
India	270	21	26	12	0.64
Barbados	57	5	8	0	0.64
Saint Vincent and the Grenadines	830	60	71	46	0.58
Tonga	43	3	6	0	0.50
Dominica	89	6	11	2	0.47
Saudi Arabia	32	2	5	0	0.46
Iran	52	3	7	0	0.41
Malta	1,495	99	121	88	0.33
Gibraltar (UK)	128	7	14	4	0.31
Belgium	66	3	9	1	0.29
Cook Islands	32	1	5	0	0.28
Taiwan, China	214	12	22	8	0.28
Egypt	33	1	5	0	0.27
Croatia	74	3	9	1	0.23
Myanmar	51	1	7	0	0.13
Malaysia	638	36	56	34	0.11
Switzerland	61	1	8	0	0.07
Italy	337	16	32	15	0.04

Flag	Inspections 2008-2010	Detentions 2008-2010	Black to Grey Limit	Grey to White Limit	Excess Factor
<b>WHITE LIST</b>					
Kuwait	36	0		0	0
Cyprus	1,411	72		83	-0.27
Isle of Man (UK)	315	12		14	-0.27
Panama	22,441	1,261		1,507	-0.37
Antigua and Barbuda	1,287	58		75	-0.47
Russian Federation	946	39		53	-0.54
Netherlands	381	12		18	-0.63
Marshall Islands	2,201	94		134	-0.65
Philippines	622	21		33	-0.71
United States of America	108	1		3	-0.76
Sweden	76	0		1	-0.81
Vanuatu	278	6		12	-0.89
Liberia	4,276	159		271	-0.92
Greece	753	22		41	-0.94
France	123	1		3	-0.94
Norway	625	17		33	-0.97
Cayman Islands (UK)	242	4		10	-1.03
Bahamas	1,731	53		103	-1.05
Bermuda (UK)	183	2		7	-1.14
Japan	341	6		16	-1.16
Denmark	351	6		16	-1.20
Singapore	3,618	101		228	-1.24
United Kingdom (UK)	555	10		28	-1.32
Germany	663	10		35	-1.49
Korea, Republic of	3,428	60		215	-1.62
Hong Kong, China	4,602	80		293	-1.64
China	2,064	26		125	-1.76

- 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 50.

$p=7\%$

$Z_{95\%}=1.645$

$q=3\%$

Table 8: INSPECTIONS AND DETENTIONS PER FLAG

Flag	Number of inspections				Number of detentions				3-year rolling average detention %
	2008	2009	2010	Total	2008	2009	2010	Total	
Afghanistan	1	0	0	1	0	0	0	0	0
Algeria	2	3	5	10	0	1	0	1	10.00
Antigua and Barbuda	367	379	541	1,287	23	11	24	58	4.51
Argentina	3	6	6	15	2	0	0	2	13.33
Australia	4	12	9	25	0	0	0	0	0
Bahamas	533	588	610	1,731	16	22	15	53	3.06
Bahrain	2	4	2	8	0	0	0	0	0
Bangladesh	8	10	14	32	1	1	4	6	18.75
Barbados	15	19	23	57	1	0	4	5	8.77
Belgium	22	21	23	66	1	0	2	3	4.55
Belize	448	348	358	1,154	49	28	34	111	9.62
Bermuda (UK)	47	68	68	183	0	2	0	2	1.09
Bolivia	3	2	3	8	1	0	1	2	25.00
Brazil	2	1	4	7	1	1	1	3	42.86
Brunei Darussalam	3	3	7	13	0	0	0	0	0.00
Bulgaria	2	5	4	11	0	0	1	1	9.09
Cambodia	1,755	1,705	1,649	5,109	324	287	266	877	17.17
Canada	2	2	0	4	1	0	0	1	25.00
Cayman Islands (UK)	81	77	84	242	0	2	2	4	1.65
Chile	1	2	0	3	0	0	0	0	0
China	695	693	676	2,064	10	8	8	26	1.26
Colombia	0	1	0	1	0	0	0	0	0
Comoros	6	5	9	20	1	0	3	4	20.00
Cook Islands	8	12	12	32	1	0	0	1	3.13
Croatia	18	25	31	74	1	1	1	3	4.05
Curacao	23	25	15	63	2	4	1	7	11.11
Cyprus	437	474	500	1,411	18	27	27	72	5.10
Denmark	108	111	132	351	2	3	1	6	1.71
Dominica	39	30	20	89	1	2	3	6	6.74
Ecuador	5	1	2	8	0	0	0	0	0
Egypt	9	13	11	33	0	0	1	1	3.03
Equatorial Guinea	1	0	0	1	1	0	0	1	100.00
Ethiopia	4	5	6	15	1	1	0	2	13.33
Falkland Islands (UK)	0	1	0	1	0	0	0	0	0
Fiji	1	0	0	1	0	0	0	0	0

Flag	Number of inspections				Number of detentions				3-year rolling average detention %
	2008	2009	2010	Total	2008	2009	2010	Total	
France	35	34	54	123	0	0	1	1	0.81
Gambia	1	0	0	1	0	0	0	0	0
Georgia	110	97	67	274	33	19	14	66	24.09
Germany	172	212	279	663	2	3	5	10	1.51
Gibraltar (UK)	28	39	61	128	0	2	5	7	5.47
Greece	214	248	291	753	5	7	10	22	2.92
Honduras	2	3	1	6	0	0	0	0	0
Hong Kong, China	1,321	1,516	1,765	4,602	26	25	29	80	1.74
India	84	85	101	270	8	11	2	21	7.78
Indonesia	209	178	205	592	40	21	25	86	14.53
Iran	35	12	5	52	3	0	0	3	5.77
Ireland	0	1	0	1	0	0	0	0	0
Isle of Man (UK)	103	105	107	315	6	4	2	12	3.81
Israel	11	5	5	21	1	0	0	1	4.76
Italy	100	100	137	337	3	6	7	16	4.75
Jamaica	6	2	2	10	0	0	1	1	10.00
Japan	112	122	107	341	1	3	2	6	1.76
Jordan	2	0	1	3	1	0	0	1	33.33
Kiribati	110	171	193	474	20	19	28	67	14.14
Korea, Democratic People's Republic	93	110	140	343	20	24	15	59	17.20
Korea, Republic of	1,124	1,125	1,179	3,428	23	14	23	60	1.75
Kuwait	12	13	11	36	0	0	0	0	0
Latvia	0	0	1	1	0	0	0	0	0
Lebanon	1	0	0	1	0	0	0	0	0
Liberia	1,228	1,290	1,758	4,276	50	43	66	159	3.72
Libyan Arab Jamahiriya	0	2	7	9	0	0	0	0	0
Lithuania	1	4	5	10	1	0	1	2	20.00
Luxemburg	9	11	9	29	0	0	1	1	3.45
Malaysia	187	212	239	638	13	14	9	36	5.64
Maldives	23	14	10	47	6	0	0	6	12.77
Malta	421	520	554	1,495	32	38	29	99	6.62
Marshall Islands	557	721	923	2,201	31	31	32	94	4.27
Mauritania	1	0	0	1	0	0	0	0	0
Mauritius	0	1	0	1	0	0	0	0	0
Mexico	0	2	0	2	0	1	0	1	50.00
Moldova	0	3	2	5	0	2	0	2	40.00

Flag	Number of inspections				Number of detentions				3-year rolling average detention %
	2008	2009	2010	Total	2008	2009	2010	Total	
Mongolia	210	160	150	520	30	26	28	84	16.15
Myanmar	24	8	19	51	0	0	1	1	1.96
Netherlands	129	111	141	381	3	1	8	12	3.15
New Zealand	2	2	2	6	1	0	0	1	16.67
Nigeria	0	0	1	1	0	0	0	0	0
Norway	212	185	228	625	6	6	5	17	2.72
Pakistan	12	7	6	25	1	1	0	2	8.00
Palau	0	1	0	1	0	0	0	0	0
Panama	7,156	7,333	7,952	22,441	458	385	418	1,261	5.62
Papua New Guinea	16	17	12	45	2	5	4	11	24.44
Peru	0	0	1	1	0	0	0	0	0
Philippines	197	212	213	622	5	8	8	21	3.38
Poland	1	0	1	2	0	0	0	0	0
Portugal	2	3	7	12	1	0	1	2	16.67
Qatar	4	6	10	20	0	0	0	0	0
Russian Federation	335	291	320	946	11	16	12	39	4.12
Saint Vincent and the Grenadines	288	277	265	830	31	18	11	60	7.23
Samoa	2	1	7	10	0	0	0	0	0
Saudi Arabia	8	12	12	32	1	0	1	2	6.25
Seychelles	4	1	2	7	0	0	0	0	0
Sierra Leone	83	105	167	355	25	24	35	84	23.66
Singapore	1,038	1,200	1,380	3,618	28	35	38	101	2.79
Slovakia	3	8	3	14	1	2	1	4	28.57
Solomon Islands	2	0	3	5	1	0	0	1	20.00
South Africa	2	0	0	2	0	0	0	0	0
Spain	3	1	1	5	0	0	0	0	0
Sri Lanka	3	3	7	13	0	0	0	0	0
St. Kitts & Nevis	53	64	64	181	13	10	11	34	18.78
Sweden	25	21	30	76	0	0	0	0	0
Switzerland	11	28	22	61	0	1	0	1	1.64
Syrian Arab Republic	1	0	1	2	0	0	0	0	0
Taiwan, China	78	68	68	214	7	3	2	12	5.61
Tanzania	2	1	3	6	0	0	2	2	33.33
Thailand	275	335	349	959	26	36	35	97	10.11
Togo	1	6	8	15	0	1	0	1	6.67
Tonga	14	15	14	43	1	1	1	3	6.98

Flag	Number of inspections				Number of detentions				3-year rolling average detention %
	2008	2009	2010	Total	2008	2009	2010	Total	
Tunisia	2	2	2	6	0	0	0	0	0
Turkey	42	54	60	156	3	9	6	18	11.54
Tuvalu	192	174	160	526	29	15	14	58	11.03
Ukraine	2	4	1	7	1	0	0	1	14.29
United Arab Emirates (UAE)	6	3	6	15	0	0	0	0	0
United Kingdom (UK)	143	176	236	555	1	5	4	10	1.80
United States of America	45	25	38	108	1	0	0	1	0.93
Vanuatu	82	92	104	278	0	3	3	6	2.16
Viet Nam	475	495	640	1,610	58	37	55	150	9.32
Ship's registration withdrawn	0	0	3	3	0	0	1	1	33.33
<b>Total</b>	<b>22,152</b>	<b>23,116</b>	<b>25,762</b>	<b>71,030</b>	<b>1,528</b>	<b>1,336</b>	<b>1,411</b>	<b>4,275</b>	<b>6.02</b>

Figure 14: COMPARISON OF INSPECTIONS PER SHIP TYPE

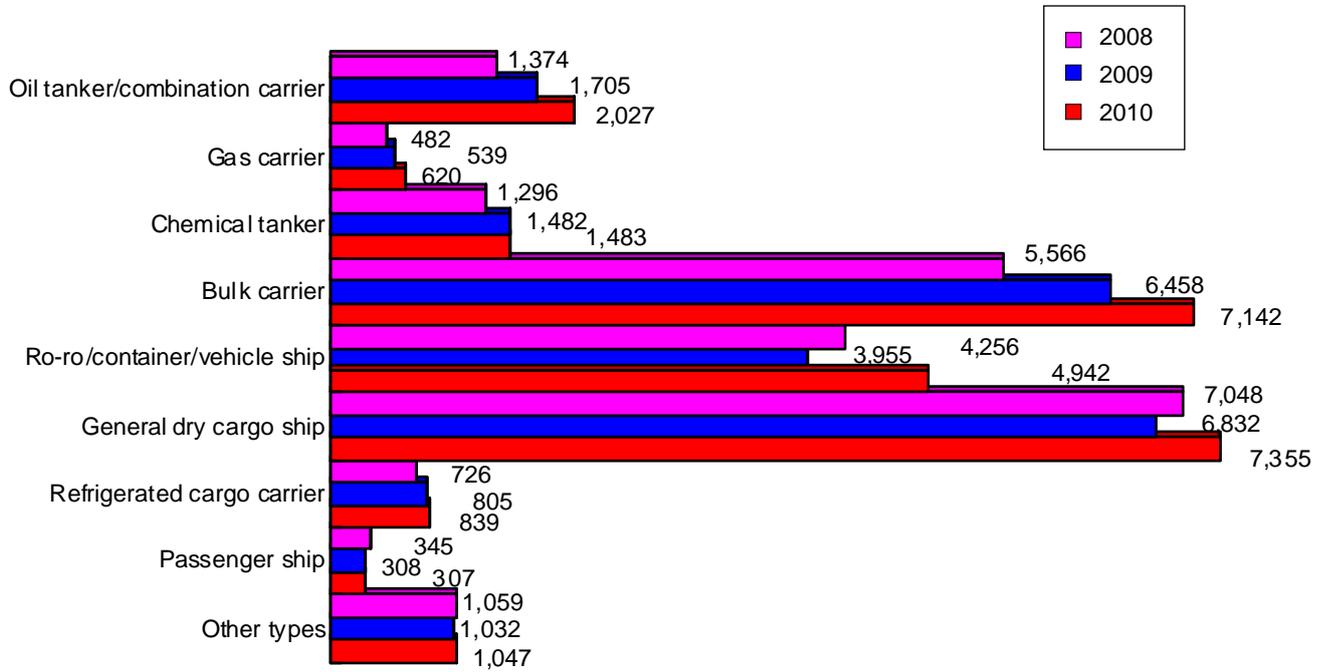


Figure 15: COMPARISON OF DETENTIONS PER SHIP TYPE

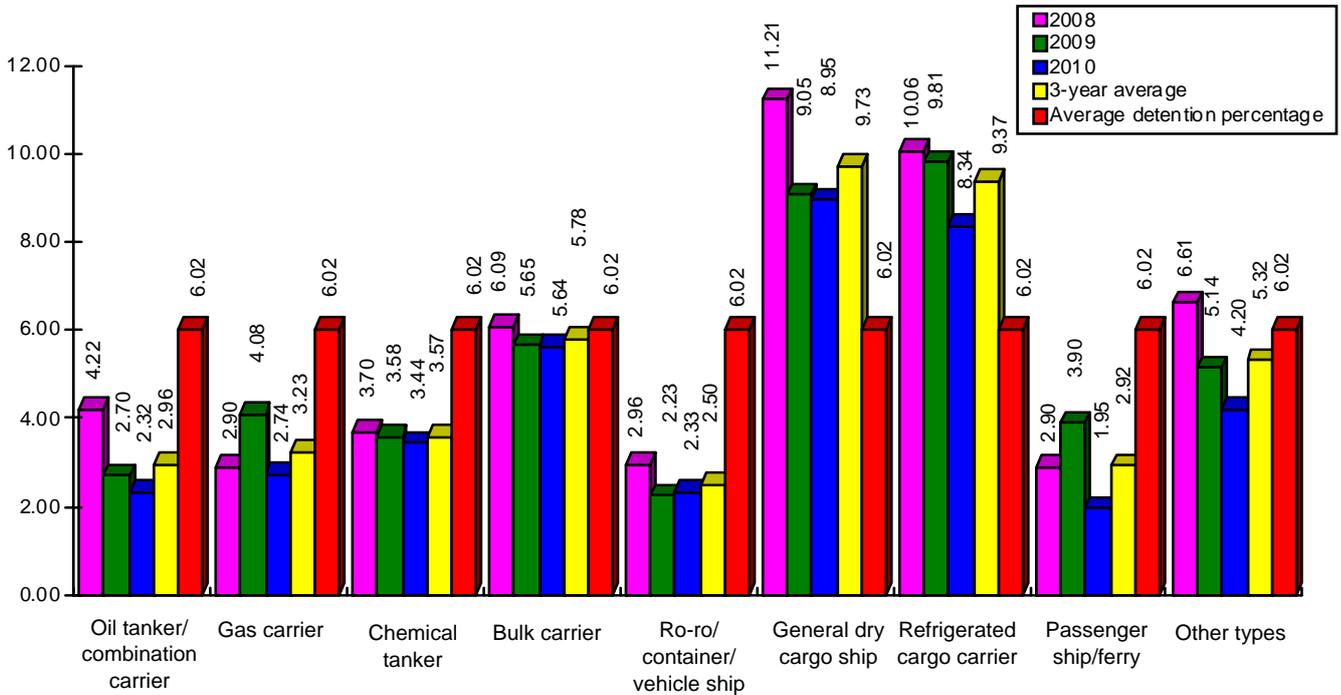
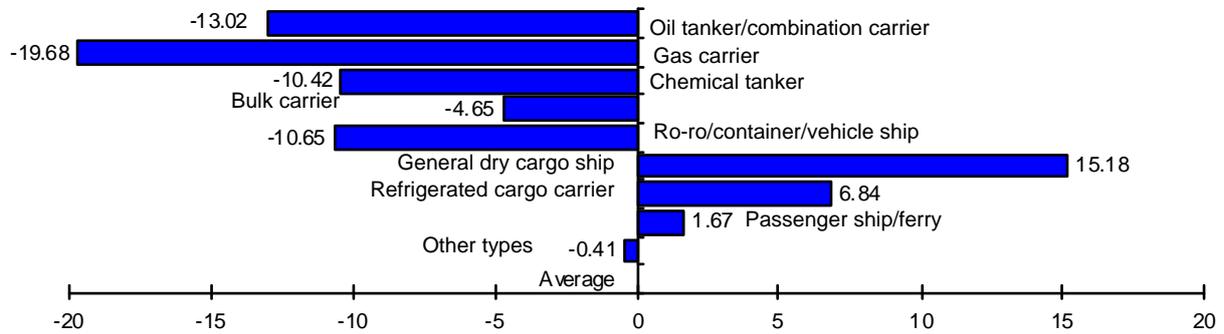


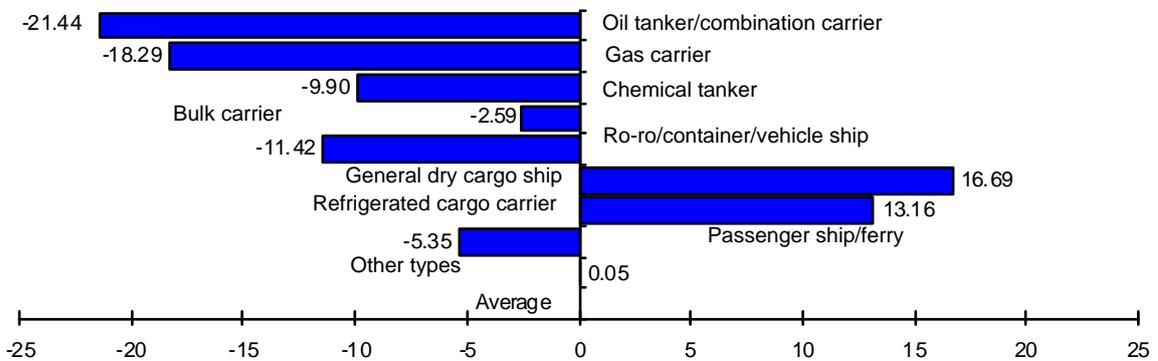
Table 9: INSPECTIONS AND DETENTIONS PER SHIP TYPE

Type of ship	Number of inspections				Number of detentions				Average detention percentage %
	2008	2009	2010	Total	2008	2009	2010	Total	
NLS tanker	54	73	85	212	4	4	0	8	3.77
Combination carrier	63	74	107	244	1	2	5	8	3.28
Oil tanker	1,257	1,558	1,835	4,650	53	40	42	135	2.90
Gas carrier	482	539	620	1,641	14	22	17	53	3.23
Chemical tanker	1,296	1,482	1,483	4,261	48	53	51	152	3.57
Bulk carrier	5,566	6,458	7,142	19,166	339	365	403	1,107	5.78
Vehicle carrier	752	587	746	2,085	20	16	16	52	2.49
Container ship	3,246	3,174	3,963	10,383	90	67	92	249	2.40
Ro-Ro cargo ship	258	194	233	685	16	5	7	28	4.09
General cargo/multi-purpose ship	7,048	6,832	7,355	21,235	790	618	658	2,066	9.73
Refrigerated cargo carrier	726	805	839	2,370	73	79	70	222	9.37
Woodchip carrier	230	212	220	662	4	5	7	16	2.42
Livestock carrier	43	55	53	151	2	1	2	5	3.31
Ro-Ro Passenger ship	96	77	83	256	7	4	4	15	5.86
Passenger ship	249	231	224	704	3	8	2	13	1.85
Factory ship	1	1	1	3	0	0	0	0	0
Heavy load carrier	48	67	61	176	2	2	3	7	3.98
Offshore service vessel	129	126	149	404	7	2	9	18	4.46
MODU & FPSO	6	5	11	22	0	0	0	0	0
High speed passenger craft	52	58	57	167	0	0	0	0	0
Special purpose ship	59	47	40	146	1	0	0	1	0.68
High speed cargo craft	1	1	0	2	0	0	0	0	0
Tugboat	239	217	212	668	35	25	12	72	10.78
Others	251	243	243	737	19	18	11	48	6.51
<b>Total</b>	<b>22,152</b>	<b>23,116</b>	<b>25,762</b>	<b>71,030</b>	<b>1,528</b>	<b>1,336</b>	<b>1,411</b>	<b>4,275</b>	<b>6.02</b>

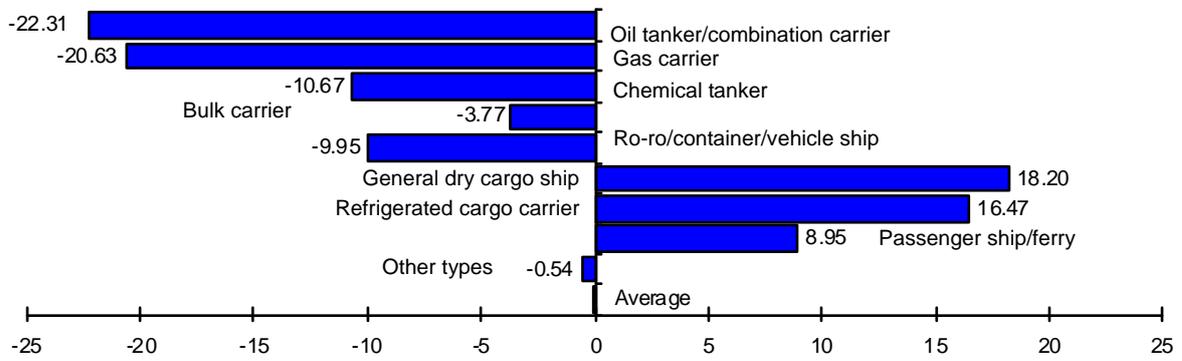
Figure 16: COMPARISON OF INSPECTIONS WITH DEFICIENCIES PER SHIP TYPE



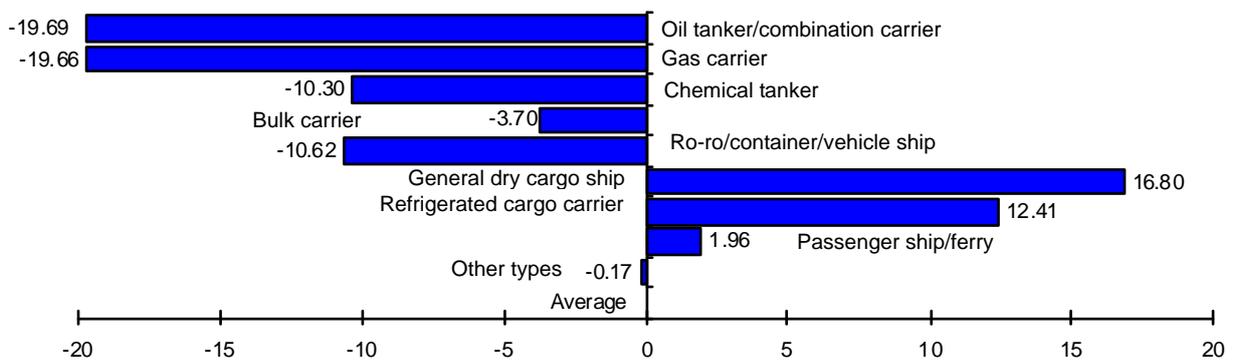
(a) Year 2008



(b) Year 2009



(c) Year 2010



(d) 3-year summary

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

Table 10: INSPECTIONS WITH DEFICIENCIES PER SHIP TYPE

Type of ship	Number of inspections				Number of inspections with deficiencies				3-year average percentage %
	2008	2009	2010	Total	2008	2009	2010	Total	
Oil tanker/combination carrier	1,374	1,705	2,027	5,106	770	772	852	2,394	46.89
Gas carrier	482	539	620	1,641	238	261	271	770	46.92
Chemical tanker	1,296	1,482	1,483	4,261	760	842	796	2,398	56.28
Bulk carrier	5,566	6,458	7,142	19,166	3,585	4,141	4,326	12,052	62.88
Ro-ro/container/vehicle ship	4,256	3,955	4,942	13,153	2,486	2,187	2,688	7,361	55.96
General dry cargo ship	7,048	6,832	7,355	21,235	5,937	5,698	6,071	17,706	83.38
Refrigerated cargo carrier	726	805	839	2,370	551	643	678	1,872	78.99
Passenger ship	345	308	307	960	244	189	225	658	68.54
Other types	1,059	1,032	1,047	3,138	727	689	668	2,084	66.41
<b>Total</b>	<b>22,152</b>	<b>23,116</b>	<b>25,762</b>	<b>71,030</b>	<b>15,298</b>	<b>15,422</b>	<b>16,575</b>	<b>47,295</b>	<b>66.58</b>

Table 11: INSPECTIONS AND DETENTIONS PER RECOGNIZED ORGANIZATION

Recognized organization (RO)	No. of overall inspections 2008-2010	No. of overall detentions 2008-2010	No. of RO responsible detentions 2008-2010	3-year average detention percentage%	3-year average RO responsible detention percentage%	3-year average percentage of RO responsible detentions%
Alfa Register of Shipping	25	0	0	0	0	0
American Bureau of Shipping	6,058	202	16	3.33	0.26	7.92
Belize Maritime Bureau Inc.	211	16	0	7.58	0	0
Belize Register Corporation	3	0	0	0	0	0
Biro Klasifikasi Indonesia	267	55	9	20.60	3.37	16.36
Bulgarski Koraben Registar	4	1	0	25.00	0	0
Bureau Securitas	13	0	0	0	0	0
Bureau Veritas	6,221	351	20	5.64	0.32	5.70
Ceskoslovensky Lodin Register	6	2	0	33.33	0	0
China Classification Society	6,246	99	7	1.59	0.11	7.07
China Corporation Register of Shipping	1,025	97	10	9.46	0.98	10.31
Compania Nacional de Registro e Inspeccion de Naves	1	0	0	0	0	0
Cosmos Marine Bureau	25	2	0	8.00	0	0
Croatian Register of Shipping	95	7	2	7.37	2.11	28.57
Cyprus Bureau of Shipping	7	0	0	0	0	0
Det Norske Veritas	7,574	262	21	3.46	0.28	8.02
Fidenavis SA	59	2	0	3.39	0	0
Germanischer Lloyd	6,613	245	10	3.70	0.15	4.08
Global Marine Bureau	2,365	384	60	16.24	2.54	15.63
Hellenic Register of Shipping	66	13	1	19.70	1.52	7.69
Honduras Bureau of Shipping	4	0	0	0	0	0
Honduras International Surveying and Inspection Bureau	4	0	0	0	0	0
INCLAMAR (Inspection y Classification Maritime, S. de. R.L.)	594	86	15	14.48	2.53	17.44
Indian Register of Shipping	282	19	1	6.74	0.35	5.26
Intermaritime Certification Services, S.A.	758	92	10	12.14	1.32	10.87
International Merchant Marine Registry of Belize	14	4	0	28.57	0	0
International Naval Surveys Bureau	151	12	1	7.95	0.66	8.33
International Register of Shipping	1,198	208	35	17.36	2.92	16.83
International Ship Classification	1,187	158	30	13.31	2.53	18.99
Isthmus Bureau of Shipping	1,509	191	28	12.66	1.86	14.66
Korea Classification Society (former Joson Classification Society)	341	57	16	16.72	4.69	28.07
Korea Ship Safety Technology Authority	142	4	0	2.82	0	0
Korean Register of Shipping	6,237	202	6	3.24	0.10	2.97
Lloyd's Register	8,359	342	25	4.09	0.30	7.31
Marconi International Marine Company Ltd.	4	0	0	0	0	0
Maritime Technical Systems and Services	193	29	6	15.03	3.11	20.69
Mongolia Ship Registry	14	2	0	14.29	0	0
National Cargo Bureau Inc.	5	0	0	0	0	0
National Shipping Adjusters Inc	38	5	1	13.16	2.63	20.00
Nippon Kaiji Kyokai	21,983	853	73	3.88	0.33	8.56
NV Unitas	5	1	0	20.00	0	0
Overseas Marine Certification Services	514	100	11	19.46	2.14	11.00
Panama Bureau of Shipping	179	9	2	5.03	1.12	22.22

Recognized organization (RO)	No. of overall inspections 2008-2010	No. of overall detentions 2008-2010	No. of RO responsible detentions 2008-2010	3-year average detention percentage%	3-year average RO responsible detention percentage%	3-year average percentage of RO responsible detentions%
Panama Maritime Documentation Services	559	74	7	13.24	1.25	9.46
Panama Maritime Surveyors Bureau Inc	503	86	4	17.10	0.80	4.65
Panama Register Corporation	221	25	2	11.31	0.90	8.00
Panama Shipping Certificate Inc.	10	1	0	10.00	0	0
Panama Shipping Registrar Inc.	532	87	8	16.35	1.50	9.20
Polski Rejestr Statkow	95	8	1	8.42	1.05	12.50
Register of Shipping (Albania)	1	0	0	0	0	0
Registro Cubano de Buques	1	0	0	0	0	0
Registro Internacional Naval S.A.	26	3	1	11.54	3.85	33.33
Registro Italiano Navale	1,181	86	0	7.28	0	0
RINAVE Portuguesa	11	1	0	9.09	0	0
Russian Maritime Register of Shipping	1,710	129	6	7.54	0.35	4.65
Russian River Register	5	0	0	0	0	0
Shipping Register of Ukraine	5	2	0	40.00	0	0
Sociedad Classificadora de Colombia	1	0	0	0	0	0
Societe Generale de Surveillance	2	0	0	0	0	0
Turkish Lloyd	32	8	0	25.00	0	0
Union Bureau of Shipping	2,743	512	110	18.67	4.01	21.48
Universal Maritime Bureau	956	142	24	14.85	2.51	16.90
Universal Shipping Bureau	272	29	0	10.66	0	0
Viet Nam Register of Shipping	1,761	184	23	10.45	1.31	12.50
Other	1,159	190	33	16.39	2.85	17.37

See also the note in page 29.

Table 12: PERFORMANCE OF RECOGNIZED ORGANIZATION

Recognized organization (RO)	No. of overall inspections 2008-2010	No. of RO responsible detentions 2008-2010	Low/medium Limit	Medium/high Limit	Excess factor	Performance level	
Union Bureau of Shipping	2,743	110	67	42	2.42	Very low	
Korea Classification Society (former Josen Classification Society)	341	16	12	2	2.02		
International Register of Shipping	1,198	35	32	15	1.19	Low	
Global Marine Bureau	2,365	60	59	36	1.04		
Biro Klasifikasi Indonesia	267	9	10	1	0.93	Medium	
International Ship Classification	1,187	30	32	15	0.87		
Universal Maritime Bureau	956	24	27	11	0.82		
Maritime Technical Systems and Services	193	6	8	0	0.79		
INCLAMAR (Inspection y Classification Maritime, S. de. R.L.)	594	15	18	6	0.76		
Overseas Marine Certification Services	514	11	16	5	0.56		
Croatian Register of Shipping	95	2	5	0	0.52		
Hellenic Register of Shipping	66	1	4	0	0.43		
Isthmus Bureau of Shipping	1,509	28	40	21	0.38		
Polski Rejestr Statkow	95	1	5	0	0.34		
Panama Bureau of Shipping	179	2	7	0	0.28		
Panama Shipping Registrar Inc.	532	8	16	5	0.27		
International Naval Surveys Bureau	151	1	6	0	0.20		
Panama Register Corporation	221	2	8	0	0.19		
Panama Maritime Documentation Services	559	7	17	5	0.15		
Intermaritime Certification Services, S.A.	758	10	22	8	0.12		
Panama Maritime Surveyors Bureau Inc	503	4	16	4	-0.11		High
Viet Nam Register of Shipping	1,761	23	45	25	-0.14		
Indian Register of Shipping	282	1	10	1	-0.16		
China Corporation Register of Shipping	1,025	10	28	13	-0.32		
Belize Maritime Bureau Inc.	211	0	8	0	-0.33		
Universal Shipping Bureau	272	0	10	1	-0.70		
Russian Maritime Register of Shipping	1,710	6	44	24	-1.37		
Bureau Veritas	6,221	20	143	106	-1.58		
Nippon Kaiji Kyokai	21,983	73	474	405	-1.62		

Recognized organization (RO)	No. of overall inspections 2008-2010	No. of RO responsible detentions 2008-2010	Low/medium Limit	Medium/high Limit	Excess factor	Performance level
Lloyd's Register	8,359	25	189	146	-1.63	
Det Norske Veritas	7,574	21	172	131	-1.65	
American Bureau of Shipping	6,058	16	140	103	-1.66	
Germanischer Lloyd	6,613	10	151	113	-1.80	
China Classification Society	6,246	7	144	106	-1.85	
Korean Register of Shipping	6,237	6	143	106	-1.87	
Registro Italiano Navale	1,181	0	32	15	-1.92	

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 17: COMPARISON OF NUMBER OF DEFICIENCIES BY MAIN CATEGORIES**

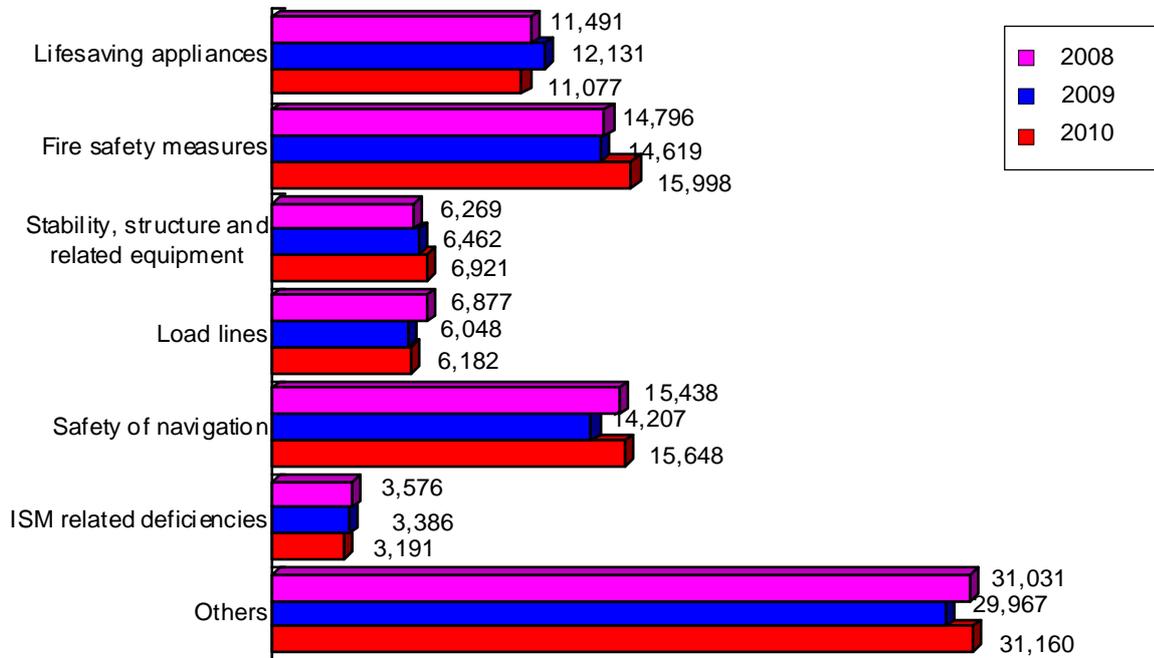
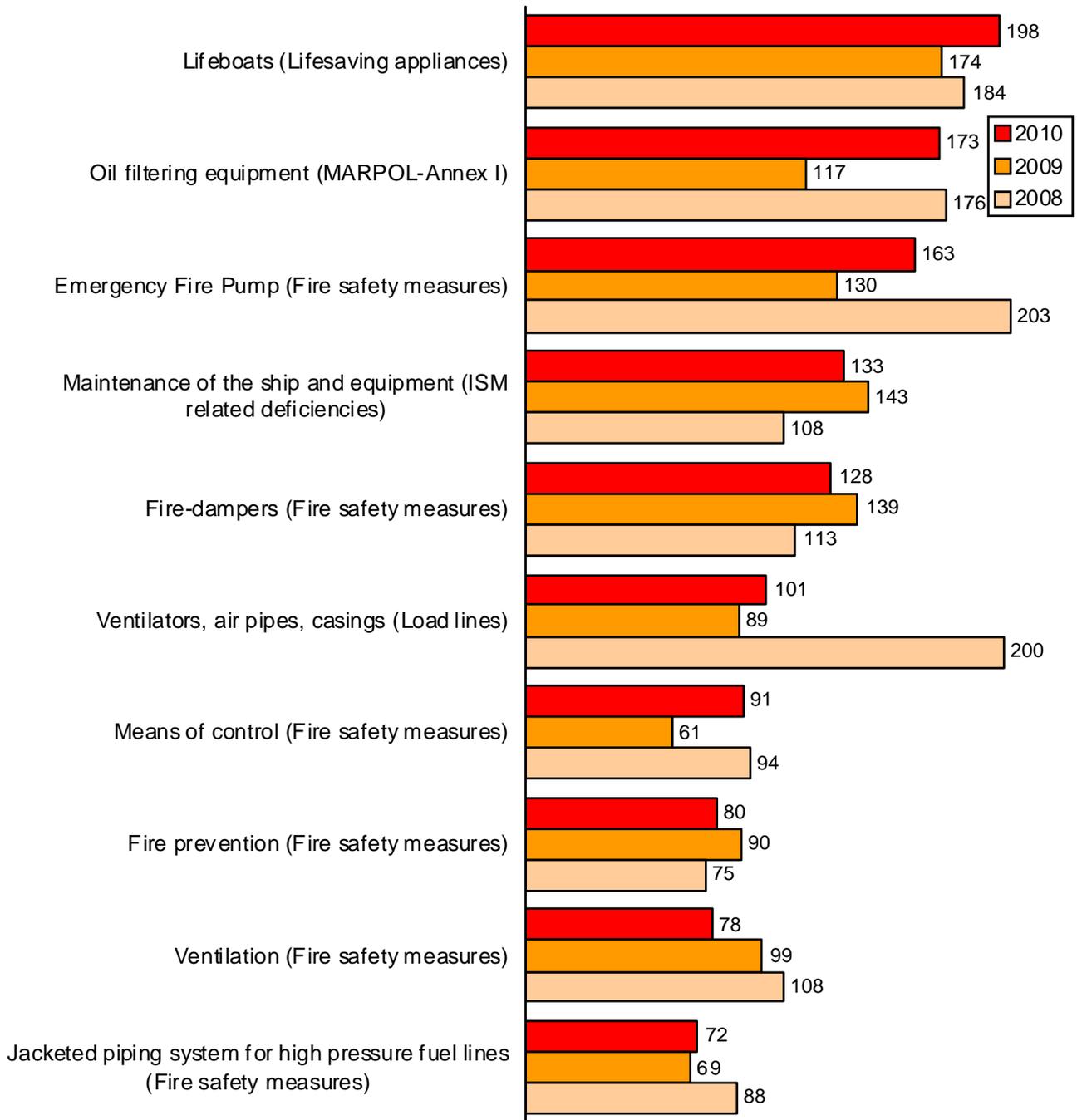


Table 13: COMPARISON OF DEFICIENCIES BY CATEGORIES

Nature of deficiency	Number of deficiencies		
	2008	2009	2010
Ship's certificates and documents	2,611	2,399	2,479
Stability, structure and related equipment	6,269	6,462	6,921
Propulsion and auxiliary machinery	5,185	5,723	6,238
Alarm signals	490	533	664
Fire safety measures	14,796	14,619	15,998
Oil, chemical tankers and gas carriers	213	258	236
Lifesaving appliances	11,491	12,131	11,077
Radiocommunications	3,527	3,354	3,015
Safety of navigation	15,438	14,207	15,648
Carriage of cargo and dangerous goods	537	496	589
ISM related deficiencies	3,576	3,386	3,191
SOLAS related operational deficiencies	4,076	4,132	4,073
Additional measures to enhance maritime safety	874	822	888
Bulk carriers-additional safety measures	310	379	486
Load lines	6,877	6,048	6,182
MARPOL-Annex I	5,505	4,452	4,403
MARPOL-Annex II	77	64	47
MARPOL-Annex III	26	12	92
MARPOL-Annex IV	340	727	879
MARPOL-Annex V	1,687	1,341	1,336
MARPOL-Annex VI	358	312	508
MARPOL related operational deficiencies	440	440	477
AFS Convention	31	21	12
Certification and watchkeeping for seafarers	1,817	1,398	1,595
Crew and accommodation (ILO 147)	414	305	326
Food and catering (ILO 147)	167	151	172
Working spaces (ILO 147)	756	866	899
Accident prevention (ILO 147)	746	712	800
Mooring arrangements (ILO 147)	747	863	793
Other deficiencies	97	207	153
<b>Total</b>	<b>89,478</b>	<b>86,820</b>	<b>90,177</b>
Maritime security related deficiencies	2,318	2,011	2,750
<b>Grand total</b>	<b>91,796</b>	<b>88,831</b>	<b>92,927</b>

**Figure 18: COMPARISON OF MOST FREQUENT DETAINABLE DEFICIENCIES**



**Table 14: COMPARISON OF MOST FREQUENT DETAINABLE DEFICIENCIES**

No.	Most frequent deficiencies	Year		
		2008	2009	2010
1	Lifeboats (Lifesaving appliances)	198	174	184
2	Oil filtering equipment (MARPOL-Annex I)	173	117	176
3	Emergency Fire Pump (Fire safety measures)	163	130	203
4	Maintenance of the ship and equipment (ISM related deficiencies)	133	143	108
5	Fire-dampers (Fire safety measures)	128	139	113
6	Ventilators, air pipes, casings (Load lines)	101	89	200
7	Means of control (Fire safety measures)	91	61	94
8	Fire prevention (Fire safety measures)	80	90	75
9	Ventilation (Fire safety measures)	78	99	108
10	Jacketed piping system for high pressure fuel lines (Fire safety measures)	72	69	88



## 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:

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

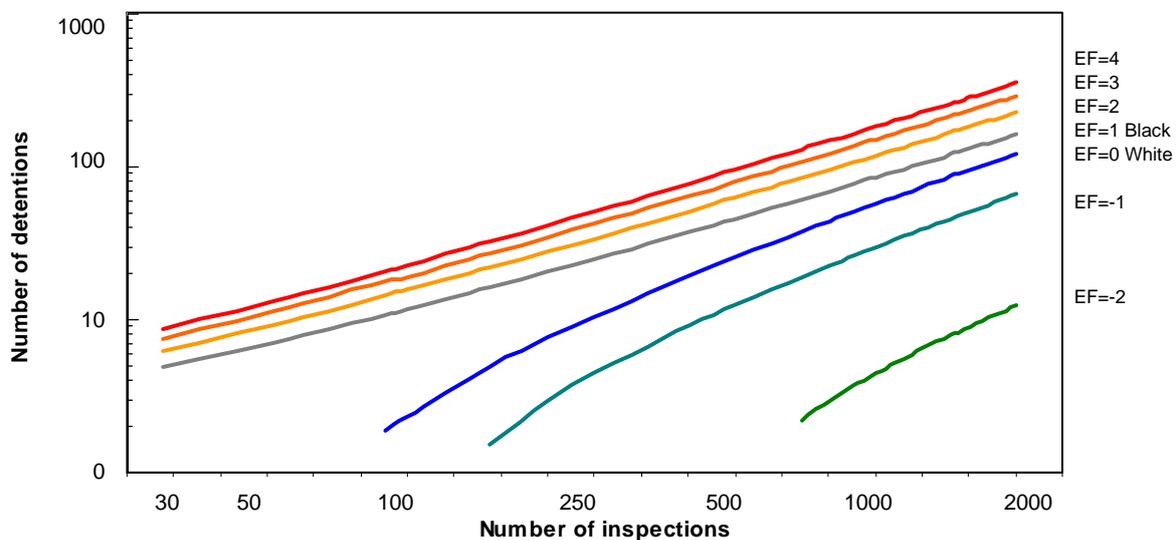
$$U_{white - to - grey} = N \cdot p - 0.5 - z \cdot \sqrt{N \cdot p \cdot (1 - p)}$$

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.



**Example flag on Black list:**

Ships of St. Kitts & Nevis were subject to 181 inspections of which 34 resulted in a detention. The "black to grey limit" is 19 detentions. The excess factor is 3.41.

$N$  = total inspections

$P$  = 7%

$Q$  = 3%

$Z$  = 1.645

How to determine the black to grey limit:

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

$$u_{black - to - grey} = 181 \cdot 0.07 + 0.5 + 1.645 \cdot \sqrt{181 \cdot 0.07 \cdot 0.93}$$

$$u = 19$$

The excess factor is 3.41. This means that 'p' has to be adjusted in the formula. The black to grey limit has an excess factor of 1, so to determine the new value for 'p', 'q' has to be multiplied with 2.41, and the outcome has to be added to the normal value for 'p':

$$p + 2.41q = 0.07 + (2.41 \cdot 0.03) = 0.1423$$

$$u_{excessfactor} = 181 \cdot 0.1423 + 0.5 + 1.645 \cdot \sqrt{181 \cdot 0.1423 \cdot 0.8577}$$

$$u_{excessfactor} = 34$$

**Example flag on Grey list:**

Ships of India were subject to 270 inspections, of which 21 resulted in a detention. The "black to grey limit" is 26 and the "grey to white limit" is 12. The excess factor is 0.64.

How to determine the black to grey limit:

$$u_{black - to - grey} = 270 \cdot 0.07 + 0.5 + 1.645 \cdot \sqrt{270 \cdot 0.07 \cdot 0.93}$$

$$u_{black-to-grey} = 26$$

How to determine the grey to white limit:

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

$$u_{white - to - grey} = 270 \cdot 0.07 - 0.5 - 1.645 \cdot \sqrt{270 \cdot 0.07 \cdot 0.93}$$

$$u_{white-to-grey} = 12$$

To determine the excess factor the following formula is used:

$$ef = (\text{Detentions} - \text{white to grey limit}) / (\text{grey to black limit} - \text{white to grey limit})$$

$$ef = (21 - 11.50) / (26.30 - 11.50)$$

$$ef = 0.64$$

#### Example flag on White list:

Ships of the United Kingdom were subject to 555 inspections of which 10 resulted in detention. The "grey to white limit" is 28 detentions. The excess factor is -1.32.

How to determine the grey to white limit:

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

$$u_{\text{white-to-grey}} = 555 \cdot 0.07 - 0.5 - 1.645 \cdot \sqrt{555 \cdot 0.07 \cdot 0.93}$$

$$u_{\text{white-to-grey}} = 28$$

The excess factor is -1.32. This means that 'p' has to be adjusted in the formula. The grey to white limit has an excess factor of 0, so to determine the new value for 'p', 'q' has to be multiplied with -1.32, and the outcome has to be added to the normal value for 'p':

$$p + (-1.32q) = 0.07 + (-1.32 \cdot 0.03) = 0.0304$$

$$u_{\text{excessfactor}} = 555 \cdot 0.0304 - 0.5 - 1.645 \cdot \sqrt{555 \cdot 0.0304 \cdot 0.9696}$$

$$u_{\text{excessfactor}} = 10$$

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.

## 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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